



The effect of preoperative briefing on anxiety: A randomized study

Ömer Faruk ALTAŞ, Leyla KUTLUCAN

Clinic of Anesthesiology and Reanimation, İzmir Bakırçay University Çiğli Training and Research Hospital, İzmir, Turkey

Citation: Altaş ÖF, Kutlucan L. The effect of preoperative briefing on anxiety: A randomized study. Pelviperrineology 2022;41(2):118-122

ABSTRACT

Objectives: Contrary to the standard information before the surgery, it was aimed to reveal the effect of detailed verbal information on the anxiety level of the patients.

Materials and Methods: Eighty-four patients included in the study were randomized into 2 groups with 42 patients in each group. While detailed verbal information was given to the patients in group 1 before the surgery, standard information was given to the patients in group 2. Amsterdam Preoperative Anxiety and Knowledge scale (APAIS) questionnaire was applied to all patients for preoperative anesthesia and one hour before the operation, immediately after informing.

Results: There was no significant difference between the two groups in terms of demographic data ($p>0.005$). Before the information, patients in group 1 had higher anxiety and desire for information scores than group 2 ($p<0.001$, $p<0.001$). In the within-group evaluation after the information, there was a significant improvement in each parameter in group 1 ($p<0.001$, $p<0.001$). While a significant increase in anxiety was detected in group 2 ($p=0.02$), there was no statistically significant change in the desire to obtain information ($p=0.21$). In the intergroup evaluation, no significant difference was found in any of the parameters after the information ($p=0.86$, $p=0.40$), while a statistically significant difference was found in the APAIS anxiety and APAIS desire to learn scores when the Δ values were examined ($p<0.001$, $p=0.007$).

Conclusion: In our study, we showed that detailed verbal information before the surgery reduced the patients' anxiety and desire to obtain information.

Keywords: APAIS; preoperative anxiety; preoperative information

INTRODUCTION

Anxiety is a feeling of fear and worry that is perceived as life-threatening and disturbs the person.¹ The feeling of uneasiness

and tension, caused by the probability of danger, can cause many physiological and psychological problems by increasing sympathetic, parasympathetic, and endocrine stimuli.² While the most important cause of anxiety in the preoperative period

Address for Correspondence: Ömer Faruk Altaş, Clinic of Anesthesiology and Reanimation, İzmir Bakırçay University Çiğli Training and Research Hospital, İzmir, Turkey

Phone: +90 536 653 39 92 **E-mail:** omerfarukaltas@hotmail.com **ORCID ID:** orcid.org/0000-0001-7016-4500

Received: 15 June 2022 **Accepted:** 10 August 2022

©Copyright 2022 by the International Society for Pelviperrineology / Pelviperrineology published by Galenos Publishing House.

is the feeling of uncertainty, it has been demonstrated in some studies that reducing the patient's anxiety level causes the patient's vital parameters to return to normal levels rapidly, the release of low amounts of corticosteroids to the blood stream with the stress response, and accelerated recovery in the postoperative period.^{3,4} In order for the patients to have a worryless period after the surgery and consequently shorten the hospital stay, it is essential that the anxiety level of highly anxious patients is reduced with effective preoperative patient evaluation and information. A high level of preoperative anxiety increases the dose of anesthesia required during surgery and the dose of analgesics needed for postoperative pain management.⁵ Patients who will undergo surgery may experience anxiety due to fear related to the type of anesthesia to be applied, not being able to wake up from the surgery, being disabled, experiencing severe pain after the surgery, not being able to work after the surgery, fear of losing control over their own body, and the fear of sexual loss. Studies have reported that 60-80% of the patients who will undergo surgery have anxiety in the preoperative period.^{6,7} Preoperative anxiety is important for anesthetists and surgeons. According to the results of an observational study conducted on more than 15,000 patients who had undergone non-obstetric surgical procedures, anxiety was reported to be the most common problem in the perioperative period.⁸

In our study, we aimed to reveal the effects of detailed preoperative briefing on the anxiety level of patients, as opposed to standard briefing, and also to exhibit the relationship of this situation with the type of anesthesia.

MATERIALS AND METHODS

In our prospective, randomized controlled study, 100 patients who were scheduled to undergo surgery between October 2021 and March 2022 at the Department of Anesthesiology and Reanimation of Çiğli Training and Research Hospital of İzmir Bakırçay University were evaluated. Included patients were aged between 18 and 65, had an American Society of Anesthesiologists (ASA) score of 1-2, did not use sedatives, psychiatric drugs, or had chronic alcohol consumption, and were able to communicate. Patients with reading and comprehension problems and hearing impairment were not included in the study. Sixteen patients who did not meet the inclusion criteria were excluded from the study. Eighty-four patients were included in the study. The patients were randomly divided into two groups and each group consisted of 42 participants. In addition to the information given to the patients during preoperative anesthetic assessment in normal practice, patients in group 1 were given detailed information about the procedure to be performed and all their questions were answered by an anesthesiologist one hour before the surgery.

Patients in group 2 were briefed as per the standard preoperative anesthetic assessment. The Amsterdam Preoperative Anxiety and Information scale (APAIS) questionnaire was administered to both groups immediately after the preoperative anesthetic assessment and immediately after the briefing given one hour before the surgery.

The study protocol was approved by the Clinical Research Ethics Committee of İzmir Bakırçay University (decision no: 345/06.10.2021). Written informed consent was obtained from all patients, and all stages of the study were performed in accordance with the principles of the Declaration of Helsinki.

Evaluation Parameters

Demographic data such as age, height, weight, marital status, occupation, and the educational level of the patients included in the study were recorded. In addition, the type of anesthesia to be administered (general or regional), the type of the surgical procedure to be performed (low, medium, or high-risk) and ASA scores were noted on the evaluation form. The patients' anxiety and desire to obtain information were evaluated using the APAIS questionnaire.

In 1996, the Moerman et al.⁹ group in the Netherlands developed the APAIS to assess preoperative anxiety. In this test, anxiety is categorized as anxiety about surgery and anesthesia and anxiety due to lack of knowledge. APAIS includes six statements to evaluate these subgroups. While questions 1, 2, 4, and 5 indicate the total anxiety score, questions 3 and 6 question the desire to obtain information. A 5-point Likert scale is used to score these statements: 1=none, 2=mild, 3=moderate, 4=severe, 5=extreme. While the lowest score is 6, the highest score is 30.⁹ Validity and reliability study of the APAIS in Turkish was performed by Çetinkaya et al.¹⁰

Statistical Analysis

Statistical analysis was performed using IBM SPSS v.24.0 software (IBM Corp., Armonk, NY, USA). Descriptive data were expressed as mean \pm standard deviation, median (minimum-maximum), or number and frequency. Fisher's Exact and Pearson's chi-square tests were used to compare the categorical variables between the groups, while the Mann-Whitney U test was used for continuous variables. Values before and after treatment were compared using the Wilcoxon test. The relationship between the variables was evaluated using Spearman's correlation analysis. The repeated measures of covariance analysis was performed to adjust for the effect of potential confounding factors such as age and gender. A *p*-value of <0.05 was considered statistically significant.

RESULTS

Eighty-four patients were included in the study. The patients were randomly divided into two groups and each group consisted of 42 participants. In comparison of the demographic data, no statistically significant difference was found between the two groups ($p>0.05$) (Table 1).

Considering the clinical data, a statistically significant difference was found between the groups in terms of APAIS anxiety and APAIS desire to obtain information scores before briefing ($p<0.001$, $p<0.001$). In the evaluation made after the briefing, a statistically significant intragroup improvement was observed in each parameter in group 1 ($p<0.001$, $p<0.001$). While there was a significant difference in the anxiety scores of the patients in group 2 ($p=0.02$), which indicated increased anxiety,

no difference was observed in terms of the desire to obtain information scores ($p=0.21$) (Table 2).

The comparison of the groups after the briefing exhibited no statistical difference between the groups ($p=0.86$, $p=0.40$). However, a statistically significant difference was found in the APAIS anxiety and desire to obtain information scores of the groups when the Δ values in all parameters were checked against the baseline values ($p<0.001$, $p=0.007$). The correlation analysis revealed a positive correlation only between the APAIS anxiety and APAIS desire to obtain information scores ($p<0.001$).

DISCUSSION

An ideal anxiety assessment questionnaire should be easy and fast to use in the perioperative setting. We used the APAIS since it is a validated questionnaire-based tool that produces better results than the physician's rough suppositions regarding the patient's anxiety.²

In the analysis of the demographic data, no difference was observed between the two groups. However, since we included the patients in our study by randomization, the levels of anxiety and desire to obtain information before briefing were higher in group 1 than in group 2.

After a detailed briefing was given to the patients in group 1, the improvement in the anxiety and desire for information scores was higher in group 1. Similar to our study, in Lin et al.'s¹¹ study on 100 patients, the authors made 50 patients watch an educational video and reported that the anxiety level of the group that watched the video decreased more. Jjala et al.⁵ randomized 110 patients who were planned to undergo upper or lower extremity surgery into two groups. The researchers provided verbal information to one group and made the other group watch a video with detailed information. As a result, they reported that the level of anxiety decreased significantly in the group that watched the video.⁵

Anxiety levels generally tend to decrease after a preoperative anesthetic assessment visit. This emphasizes the effectiveness of the interaction with the anesthesiologist and the information received.¹² As seen in the study by Jjala et al.,⁵ anxiety levels usually reach their peak just before surgery. In our study, in the evaluation before the surgery we saw that the level of anxiety increased in group 2, which was provided standard briefing. However, a significant decrease in the anxiety levels was observed in group 1 patients who received detailed verbal information from the anesthesiologist. In these patients, whose anxiety decreased, there was also a decrease in the desire to obtain information. Contrary to these findings, Pokharel et al.¹³ reported that anxiety peaked at different times in different patients.

Table 1. Demographic data

	Group 1 n=42% (n) mean \pm SD	Group 2 n=42% (n) mean \pm SD	p
Age	48.7 \pm 12.6	52.3 \pm 13.3	0.15
Gender			
Woman	54.8% (n=23)	45.2% (n=19)	0.38
Man	45.2% (n=19)	54.8% (n=23)	
Height	165.5 \pm 20.0	166.2 \pm 7.6	0.48
Weight	82.7 \pm 19.6	78.1 \pm 15.9	0.18
Marital status			
Married	71.4% (n=30)	71.4% (n=30)	1.0
Single	28.6% (n=12)	28.6% (n=12)	
Educational status			
Primary and secondary school	61.9% (n=26)	47.6% (n=20)	0.38
High school	14.3% (n=6)	31% (n=13)	
University	23.8% (n=10)	21.4% (n=9)	
Job			
House wife	33.3% (n=14)	33.3% (n=14)	0.44
Retired	23.8% (n=10)	40.5% (n=17)	
Worker	42.9% (n=18)	26.2% (n=11)	
Cigaret			
Yes	40.5% (n=17)	33.3% (n=14)	0.50
No	59.5% (n=25)	66.7% (n=28)	
ASA			
1	16.7% (n=7)	9.5% (n=4)	0.12
2	83.3% (n=35)	90.5% (n=38)	
Type of anesthesia			
General anesthesia	52.4% (n=22)	59.5% (n=25)	0.51
Regional anesthesia	47.6% (n=20)	40.5% (n=17)	
Type of surgery			
Low risk	16.7% (n=7)	26.2% (n=11)	0.35
Medium risk	78.6% (n=33)	69% (n=29)	
High risk	4.8% (n=2)	4.8% (n=2)	

ASA: American society of anesthesiologists; SD: standard deviation

Table 2. APAIS score comparison within and between groups before and after briefing

	Group 1 (mean ± SD)	Group 2 (mean ± SD)	p [#]
APAIS anxiety scale (BB)	12.59±5.17	8.59±3.85	0.001
APAIS anxiety scale (AB)	9.09±3.92	9.45±4.30	0.86
p [*]	0.001	0.02	-
APAIS information request (BB)	6.78±2.56	4.90±2.59	0.001
APAIS information request (AB)	5.02±2.24	4.59±2.03	0.40
p [*]	0.001	0.21	-

p[#]: comparison between groups; p^{*}: comparison within groups; BB: before briefing; AB: after briefing; APAIS: Amsterdam preoperative anxiety and information scale; SD: standard deviation

In our study, we detected a positive correlation between anxiety and the requirement for additional information. Similar to the APAIS study, patients with high anxiety scores needed additional or more information than patients with low anxiety scores.⁹ In Matthias and Samarasekera's² study, the authors found that the fear of anesthesia was the most important cause of anxiety and demonstrated a high positive correlation between high-level information seekers and anxiety scores.

Sigdel et al.¹⁴ analyzed 140 patients who were to undergo cardiovascular surgery and reported that most of the patients had anxiety. In addition, the authors found that those with higher anxiety levels had a higher level of desire to obtain information.¹⁴ In accordance with this finding, a detailed preanesthetic assessment and briefing of patients should be considered. Preoperative assessment is a stage during which additional information can be provided to patients before surgery and their problems can be addressed. It has also been reported that fear of complications during surgery is associated with preoperative anxiety.¹⁵

During the preanesthetic assessment, information about the type of anesthesia is generally given to patients by the anesthetist who performs the examination. However, due to time constraints, complexity of the disease process, or language barrier, there may be a lack of disclosure of anesthetic and surgical information. Similar to our study, it was found in some studies that patients who were better briefed before anesthesia showed lower scores on the anxiety scale than those who did not receive any explanation.¹⁶ However, in our study, a correlation was observed between the anxiety of the patient and the requirement for more information. In our study, no significant relationship was found between the level of anxiety and educational status or profession. No correlation with other factors such as age, gender, socio-economic status, marital status, previous surgery experience, or the type of anesthesia was noted. Contrary to our data, the literature shows that the level of anxiety is high among women.¹⁴

The APAIS is a tool capable of assessing the patients' anxiety and their desire to obtain information. Anesthesiologists can improve the anesthesia experience of patients by emphasizing the management of perioperative time, giving patients much more detailed information about the surgery to be performed, and depending on the answers of the patients.¹⁷ Therefore, we believe that APAIS may be a useful tool for routine use in preoperative visits.

The association between high anxiety level of patients during surgery and increased autonomic variations, increased need for anesthesia, and increased postoperative pain has been demonstrated.¹³ In their study, Van den Bosh et al.¹⁸ showed that postoperative nausea and vomiting were associated with the level of preoperative anxiety. As a result of these complications, many authors reported that the duration of recovery and hospital stay was prolonged.¹³ We believe that this situation will also lead to an increase in health costs. Therefore, it is important to reduce the anxiety of patients with preoperative briefing.¹⁹

Study Limitations

The first limitation of our study is that it was a single-center study. Had the study been performed with a multicenter design, its efficacy and patient population would have been higher. Not including the patients hospitalized in the clinic but only those who presented to our anesthesia clinic was another limitation.

CONCLUSION

We revealed in our study that detailed briefing before anesthesia reduces anxiety, which also reduces the desire to obtain information. In addition, we found that the anxiety in the group who did not receive verbal information before surgery increased as the time of surgery approached. We believe that the anesthesiologist should identify the patients with a high level of anxiety using applicable scales and utilize audio-visual aids, psychoeducational information, and preoperative nursing services to reduce anxiety.

ETHICS

Ethics Committee Approval: This study was approved by the Clinical Research Ethics Committee of İzmir Bakırçay University (decision number: 345/06.10.2021).

Informed Consent: Informed consent form was obtained from the patients.

Peer-review: Externally peer-reviewed.

Contributions

Medical Practices: Ö.F.A., L.K.; Concept: Ö.F.A.; Design: Ö.F.A., L.K.; Data Collection and/or Processing: Ö.F.A., L.K.; Analysis and/or Interpretation: Ö.F.A., L.K.; Writing: Ö.F.A.

DISCLOSURES

Conflict of Interest: No conflict of interest was declared by the authors.

Financial Disclosure: The authors declared that this study received no financial support

REFERENCES

1. Findık ÜY, Yıldızeli Topcu S. Effect of the Way of Surgery on Preoperative Anxiety. Hacettepe University Faculty of Health Sciences Nursing Journal 2012; 19: 22-33.
2. Matthias AT, Samarasekera DN. Preoperative anxiety in surgical patients - experience of a single unit. Acta Anaesthesiol Taiwan 2012; 50: 3-6.
3. Klopfenstein CE, Forster A, Van Gessel E. Anesthetic assessment in an outpatient consultation clinic reduces preoperative anxiety. Can J Anaesth 2000; 47: 511-5.
4. Gürsoy A, Candaş B, Güner Ş, Yılmaz S. Preoperative Stress: An Operating Room Nurse Intervention Assessment. J Perianesth Nurs 2016; 31: 495-503.
5. Jjala HA, French JL, Foxall GL, Hardman JG, Bedfordth NM. Effect of preoperative multimedia information on perioperative anxiety in patients undergoing procedures under regional anaesthesia. Br J Anaesth 2010; 104: 369-74.
6. Dayılar H, Oyur G, Kamer E, Sarıççek A, Cengiz F, Hacıyanlı M. Evaluation of the preoperative anxiety with apais and STAI-I scales. Turk J Colorectal Dis 2017; 27: 6-10.
7. Taşdemir A, Erakgün A, Deniz MN, Çertuğ A. Comparison of preoperative and postoperative anxiety levels with state-trait anxiety inventory test in preoperatively informed patients. Turk J Anaesth Reanim 2013; 41: 44-9.
8. Walker EMK, Bell M, Cook TM, et al. Patient reported outcome of adult perioperative anaesthesia in the United Kingdom: a cross-sectional observational study. Br J Anaesth 2016; 117: 758-66.
9. Moerman N, van Dam FS, Muller MJ, Oosting H. The Amsterdam Preoperative Anxiety and Information Scale (APAIS). Anesth Analg 1996; 82: 445-51.
10. Çetinkaya F, Kavuran E, Ünal Aslan KS. Validity and reliability of the Amsterdam Preoperative Anxiety and Information Scale in the Turkish population. Turk J Med Sci 2019; 49: 178-83.
11. Lin SY, Huang HA, Lin SC, Huang YT, Wang KY, Shi HY. The effect of an anaesthetic patient information video on perioperative anxiety: A randomised study. Eur J Anaesthesiol 2016; 33: 134-9.
12. Boker A, Brownell L, Donen N. The Amsterdam preoperative anxiety and information scale provides a simple and reliable measure of preoperative anxiety. Can J Anaesth 2002; 49: 792-8.
13. Pokharel K, Bhattarai B, Tripathi M, Khatiwada S, Subedi A. Nepalese patients' anxiety and concerns before surgery. J Clin Anesth 2011; 23: 372-8.
14. Sigdel S, Ozaki A, Basnet M, et al. Anxiety evaluation in Nepalese adult patients awaiting cardiac surgery: A prospective observational study. Medicine (Baltimore) 2020; 99: e19302.
15. Mulugeta H, Ayana M, Sintayehu M, Dessie G, Zewdu T. Preoperative anxiety and associated factors among adult surgical patients in Debre Markos and Felege Hiwot referral hospitals, Northwest Ethiopia. BMC Anesthesiol 2018; 18: 155.
16. Kiyohara LY, Kayano LK, Oliveira LM, et al. Surgery information reduces anxiety in the pre-operative period. Rev Hosp Clin Fac Med Sao Paulo 2004; 59: 51-6.
17. Buonanno P, Laiola A, Palumbo C, Spinelli G, Terminiello V, Servillo G. Italian validation of the Amsterdam Preoperative Anxiety and Information Scale. Minerva Anesthesiol 2017; 83: 705-11.
18. Van den Bosch JE, Moons KG, Bonsel GJ, Kalkman CJ. Does measurement of preoperative anxiety have added value for predicting postoperative nausea and vomiting? Anesth Analg 2005; 100: 1525-32.
19. Vergara-Romero M, Morales-Asencio JM, Morales-Fernández A, Canca-Sanchez JC, Rivas-Ruiz F, Reinaldo-Lapuerta JA. Validation of the Spanish version of the Amsterdam Preoperative Anxiety and Information Scale (APAIS). Health Qual Life Outcomes 2017; 15: 120.