**Prospective Evaluation of Preoperative APAIS Scores in Our Hospital**

**1. INTRODUCTION**

Preoperative anxiety is an unpleasant psychological and universal condition that can negatively affect the anesthesia and surgical procedure to be applied, as well as the recovery of the patient (1, 2). Many studies have shown that the majority of patients admitted to the hospital for elective surgery experience preoperative anxiety.

Among the causes of preoperative anxiety, there are general concerns such as the patient's own health and concerns about the operation, moving away from home and relatives, interruption of daily work, as well as anesthetic concerns such as waking up during the operation, feeling pain, not being able to wake up and feeling pain after the operation (1). The degree to which each patient exhibits it’s anxiety is different and is affected by many factors. These include the patient's age, gender, type and scope of the proposed operation, previous operation experience, and the patient's personal sensitivity to stressful situations (3,4).

Anxiety is important because it has the potential to affect all phases of anesthesia such as preoperative visit, induction, perioperative and recovery periods (1). In spite of the obvious benefits of pre-operative visits in hospitalized patients, same-day inpatient and outpatient surgery are now commonplace in most practice settings. These changes caused patients to meet with anesthesiologists just minutes before the operation. Despite these time constraints, there is still a need to address patients' medical and psychological concerns. New tools are required to assist the anesthesiologist in this task. One of these tools is a quantitative measure of pre-operative anxiety. Such a scale can provide patients with the opportunity to express their feelings, as well as screen highly anxious patients who may benefit from pre-operative anesthesia consultation or anxiolytic medication.

The long and complex Spielburger state-continuity anxiety inventory (STAI) scale is used as a standard in many centers. The Amsterdam Preoperative Anxiety and Information Scale (APAIS), developed by Moermann et al., Has been found to be short and at least as effective as STAI and more suitable for use by anesthesiologists in many studies. (5)

This questionnaire study was conducted to determine the preoperative causes and levels of anxiety, to reveal the anesthesia-related concerns and related factors, to examine the effects of the operation history on anxiety, and to determine the pre-anesthesia usability of the APAIS test developed specifically for anesthesia.

**2. MATERIALS AND METHODS**

This work; after obtaining the opinions of the local ethics committee of the university and the written consents of the patients, the operation was performed in 97 adult patients between 15-71 ages, who were scheduled for elective surgery. Patients with mental illness and using sedative drugs were excluded from the study.

The questionnaire form was read to the patient by the anesthesiologist 1 to 3 days before the operation and the answers were recorded. The questionnaire form consisted of two parts; In the first part; Demographic information such as age, gender, education level and anesthesia experience were asked. In the second part; APAIS (Table 1) test, which measures anxiety and the desire to inform, was applied. The APAIS form included 6 statements measuring anxiety and the desire to obtain information. Patients rated each statement between 1 and 5.

Table 1.APAIS test

1. I am worried about anesthesia

2.I constantly think about anesthesia

3.I want to learn as much as possible about anesthesia.

4. I am worried about the surgical procedure

5.I think of the surgical procedure to be applied continuously

6. I want to learn as much as possible about the surgical procedure.

Creation of databases and statistical analysis were done using IBM SPSS.23 program. Data were given as mean ± standard deviation. Values with a P value below 0.05 were considered statistically significant.

**3. RESULTS**

97 patients were included in the study. While 62.9% of the patients were female, 37.1% were male, and the mean age of all patients was 40.36 ± 14.28. 45.4% of the patients were ASA I, 44.3% ASA II, 10.3% ASA III. The occupations and education levels of the patients are given in Table 1. While 60.8% of the patients who applied had a history of a previous operation, 39.2% of them did not have a history. General anesthesia was applied in 84.7% of the patients with a history of operation, regional anesthesia in 10.2%, and sedation in 5.1%. (Table 1) The departments planning an operation on patients are shown in Table 2. The answers given by the patients to the Amsterdam Preoperative Anxiety and Information Scale (APAIS) test Questionnaire questions are shown in Table 3. While 49.2% of female patients were not "at all" worried about anesthesia, 6.6% of them were extremely worried. While the anesthetic anxiety level of 75% of the men was 'none', 2.8% of them were extremely worried. The distribution of anesthesia anxiety levels was similar between both sex groups (p = 0.123, Table 4). If we look at the surgical anxiety levels of the patients, we see that 36.1% of women and 61.1% of men have anxiety level as 'none', although the surgical anxiety levels of the patients are more common in female patients, no statistical difference was observed in the gender distribution. (p = 0.084, Table 5)

**4. DISCUSSION**

Anxiety is considered to be a somewhat natural response of the patient to unforeseen and potentially threatening conditions specific to the pre-operative period, particularly for the first few surgical experiences. However, excessive preoperative anxiety can lead to pathophysiological consequences. These include increased hemodynamic parameters, arrhythmias, and higher pain levels. In addition, it increases the need for anesthetics and the risk of awareness during the operation, as well as making postoperative rehabilitation difficult (6,7).

In some studies, it has been concluded that the patients with the best postoperative emotional adjustment are the group of patients with moderate preoperative anxiety (8). In patients with high pre-operative anxiety levels, it has been reported that more medical complications develop and the length of stay after the operation (9). Therefore, the target in patients who are prepared in the preoperative period is moderate or healthy anxiety (10). In addition, anxiety is now used as a quality indicator (11).

It is known that meeting the anesthesiologist with the patient in the preoperative period, establishing a good communication and informing the patients in the preoperative period significantly reduces anxiety. Therefore, one of the most important goals of the preoperative visit is to relieve anxiety (12). However, during the procedure, it was observed that the anxiety levels of the patients decreased when the patient was informed about the procedure and why it was performed at each stage (13). The effects of informing patients in detail on anxiety are controversial.

The most widely used test for anxiety measurement is State-Trait Anxiety Inventory (STAI) (1). In addition, the Amsterdam Preoperative Anxiety and Information Scale (APAIS) test, which is simpler and less time-consuming to apply, was developed by Moerman et al. (14,15). For good communication, the anesthesiologist should have knowledge about the anxiety levels of the patients, the causes of anxiety and the factors they are related to.

In previous studies, anxiety level was reported to be higher in women compared to men. While the researchers attributed this to the higher sense of separation from their families in women, some researchers stated that women could express their concerns more easily than men (15,16). In our study, parallel to the literature data, anxiety level was higher in women compared to men.

While some researchers reported that age did not affect the degree of anxiety, some researchers found that the anxiety scores of the middle age group were high. The reason for this is the high sense of responsibility felt towards the family. (17)

In some studies, it was found that the need to obtain information was higher in the younger age group, while in others it was observed that the desire to obtain information did not change with age. The high level of desire for information among young people is attributed to their ability to express their wishes more easily than those of older ages. (17.18)

In addition to studies reporting that anesthesia experience does not change the preoperative anxiety level, there are studies suggesting that anesthesia experience decreases anxiety in men but does not affect it in women. (2,19) In our study, it was observed that anesthesia experience did not change the level of anxiety.

Studies have found that the ASA classification score is determinative for preoperative anxiety. Therefore, it should be kept in mind that anxiety is clinically important and should not be overlooked in patients with systemic disease (2).

**5. CONCLUSION**

We found that the preoperative anxiety level was higher in women, and that APAIS could be used in preoperative anxiety measurement in terms of time and effectiveness. It should not be forgotten that the best way to prevent the patients' fears and relieve their concerns is to inform. As anesthesiologists, using successful communication methods and trying to get to know the human side of the patient are as important as the medical interventions we will apply. We believe that by doing these simple interventions in the preoperative period, many complications that may be encountered in the postoperative period can be avoided and postoperative results will be positively affected by reducing the patient's anxiety.