Patients’, who applied to the anesthesia clinic, perceptions and knowledge about anesthesia in Türkiye

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ABSTRACT

Background: Pre-operative evaluation includes determining the patient’s physiological and psychological situation, taking information about pharmacological and therapeutic history, laboratory examinations, and identifying the anesthesia risks. The aim of this study is to learn the patients’, who planned for elective surgery, knowledge and perception about anesthesia, to determine the causes of fears, to investigate whether age, gender, education level, and history of operation affect the outcome of the survey.

Methods: A questionnaire consisting of 21 questions was asked to fill by the patients who applied to the anesthesia clinic. In our study, totally 250 patients, aged between 16 and 75 were included. The questionnaire consists of two parts: The first part includes demographic data such as age, gender, education level, occupation; the second part includes the questions about anesthesia experience and knowledge.

Results: Of the 250 patients studied, 59% were females and 41% were males. Of these patients, 37.6% had secondary education. As occupation, the highest percentage was belonging to the housewives (33.6%). In the second part of the questionnaire, it was showed that having an anesthesia experience and high education status statistically significantly affect the level of information about anesthesia ($P=0.001; P=0.001$).

Conclusion: In this study, it was showed that there is an important relationship between education and past anesthesia experience and having information about anesthesia and anesthetists. But, generally it was also showed that the patients not having adequate information about anesthesia and anesthetists and to provide the public more informed about anesthesia, with hospital policies and studies of increasing education level, the individual attempts of anesthetists and continuous studies for anesthesia displaying are needed.

Key words: Anesthesia, information, perception, questionnaire

INTRODUCTION

Pre-operative evaluation includes determining the patient’s physiological and psychological situation, taking information about pharmacological and therapeutic history, laboratory examinations, and identifying the anesthesia risks. In the pre-operative period, there are a lot of goals of preparation, but one of the most important is to eliminate anxiety.$^{1,2}$ Many patients feel fear and anxiety during the pre-operative period, the source of this is not to be given enough information about the events that can happen due to anesthesia and surgery. Many studies have demonstrated poor public knowledge of anesthesia and the role of anesthetists in developed$^{3,4}$ and developing countries,$^{5,6}$ despite their increasing involvement in resuscitation, intensive care, and acute and chronic pain management.

The aim of this study is to learn the patients’, who planned for elective surgery, knowledge and perception about anesthesia, to determine the causes of fears, to investigate whether age, gender, education level, and history of operation affect the outcome of the survey.

METHODS

After the approval to our hospital ethics committee, we
asked the patients to fill a questionnaire consisting of 21 questions. Regardless to sex, 250 patients aged between 16 and 75 were included. Patients aged younger than 16 and/or older than 75, having a severe illness, speaking or hearing problem, and patients who have psychiatric failure were excluded from the study.

The questionnaire consists of two parts. The first part includes demographic data such as age, gender, education level, occupation; the second part includes multiple choice questions related to anesthesia. In the second part of the questionnaire, working places of anesthetists, methods of anesthesia, and fears about anesthesia were interrogated. Totally, there are 21 questions (the questionnaire is given in Table 1). The questions in the survey were asked to the patients who do not know to read and write verbally by the anesthetist.

To define the sample size MedCalc 11.5.0 (Mersin, Türkiye) statistical program was used. The statistical calculations were made with SPSS for Windows 15.0 program. Shapiro–Wilk test was used to evaluate the convenience of numerical data and normal range; parametric tests were used to compare the variables which show normal range and non-parametric tests were used to compare variables which do not show normal range.

Student’s t-test to compare two independent groups for numerical variables and one way analysis of variance (ANOVA) test to compare categorical variables whether the number of independent groups is more than two were used. For ANOVA tests which have significant statistical values, one of the post-hoc tests, Tukey method, was used. Spearman-Rho test was used to test whether there is linear relationship between two numerical variables. In all comparisons, Type 1 error level was determined as 0.05.

RESULTS

The demographic data of the patients studied were given in Table 2 and of total patients 54% had anesthesia history and 46% did not have.

Patients’ responses to questions about the effects of some illnesses on anesthesia were shown in Table 3.

When asked about pre-operative fasting, 52.8% of the patients replied as both solid and liquid foods are discontinued, 15.4% of them replied as none of the foods are needed to be discontinued. When asked the time of pre-operative fasting, 36.4% do not know, 30% replied as 12 h, 7.6% as 2 h, and 6.4% as 24 h.

When asked who applied anesthesia, 60.4% of the patients answered as anesthetist, 4.4% answered as

| Table 1: The questionnaire |
|---------------------------|
| **Gender** |
| Female | Male |
| **Age** |
| **Educational status** | **Occupation** |
| (a) Illiterate | (a) Housewife |
| (b) Primary school | (b) Retired |
| (c) Secondary school | (c) Government official |
| (d) Graduate | (d) Student |
| (e) Post-graduate | (e) Independent business |
| (f) Proletarian | (g) Unemployed |
| **(1)** Have you ever been applied anesthesia? |
| Yes | No |
| **(2)** The reason of applying to anesthesia clinic |
| (a) To explain the operations before I had | (b) To give information about existing illnesses |
| (c) Because the surgeon referred me | (d) I do not know |
| **(3)** Anesthesia is applied to all patients in the same way |
| (a) Yes | (b) No | (c) Do not know |
| **(4)** As conditions like heart disease, diabetes, renal failure have to be expressed before surgery |
| (a) Yes | (b) No | (c) Do not know |
| **(5)** To age, the drugs given for anesthesia are differ |
| (a) Yes | (b) No | (c) Do not know |
| **(6)** Is anesthesia needed if surgery has to be required? |
| (a) Yes | (b) No | (c) Do not know |
| **(7)** Before anesthesia |
| (a) Only solid foods are stopped | (b) Both solid and liquid foods are stopped |
| (c) Only liquid foods are stopped | (d) The foods are eaten little by little |
| (e) There is no need to stop any of them |
| **(8)** Pre-operative fasting period |
| (a) 2 h | (b) 6 h | (c) 12 h |
| (d) 24 h | (e) Do not know |
| **(9)** Why is fasting needed before surgery according to you? |
| (a) During sleeping, foods can go to lungs | (b) Nausea-vomiting can occur after surgery |
| (c) The surgery can be difficult during operation | (d) Do not know |
| **(10)** Who applies anesthesia? |
| (a) Nurse | (b) Anesthesia technician |
| (c) Anesthesia doctor | (d) The surgeon |
| (e) Do not know |
| **(11)** Anesthetist is |
| (a) Medically qualified doctor | (b) Non-medically qualified doctor |
| (c) University graduates who can apply anesthesia | (d) Nurses who can apply anesthesia |
| (e) Educated personal in hospitals to apply anesthesia |
| **(12)** Where are the anesthesia doctors work? |
| (a) Clinics | (b) Operating theater | (c) Intensive care units |
| (d) Pain units | (e) Do not know |

Contd...
surgeon. To the question who is an anesthetist, 73.6% of the patients replied as medically qualified doctor, 7.6% replied as personnels trained in the hospital, 7.2% non-qualified doctor, 6% university graduate who can apply anesthesia, 4.8% nurses, and 2 patients did not answer this question.
To the question about fears of anesthesia, 31.2% of the patients not wake up from anesthesia, 22.8% wake up during anesthesia, 21.6% not sleep totally, 9.6% say unintended things, 10.8% feel pain, and 5.2% nausea–vomiting after the operation.

To be given enough information about anesthesia and age, gender, educational status, anesthesia history compared, no correlation found with age ($P=0.187$), whereas women have more information but this not statistically important ($P=0.640$).

Between having enough information about anesthesia and educational status and anesthesia history, an important relationship was found ($P=0.088; P=0.001$).

### DISCUSSION

To date, the patients’ poor knowledge about anesthesia technique and anesthetists is determined in the studies.[7–10] However, there are studies published since 1970s, a little difference in patients’ knowledge is established. Several surveys in different issues about anesthesia have been made in Turkey but any data base about the recognition of the patients and public's about anesthetists and anesthesia practice has not been yet developed.

In the studies all over the world, it was showed that only less than two-third of the patients know an anesthetist is a doctor. These ratios differ between developing and developed countries. This ratio is 90-99% in developed countries, whereas 50-60% in developing countries.[11–14] In our study, 73.6% of the patients represented that an anesthesiologist is “doctor who is educated in his own branch.” This ratio is between the ratios signed in developed and developing countries. There can be a lot of reasons of inadequate knowledge about anesthesia. The first and most important reason is, patients go to a surgeon because of their illnesses and after that they are directed to an anesthesiologist by this surgeon.

Despite gender is looked at in every study about patients’ information and perception of anesthesia, only in a few studies discussed the relationship between gender and level of knowledge about anesthesia. In Gurunathan and Jacob’s study, between gender and level of knowledge about anesthesia, no statistically significant relation was found.[15] In our study, in accordance with the literature, despite the correct response score of the questionnaire is higher with women, it is not statistically significant ($P=0.640$).

In the study by Jathar et al.,[16] educational status and knowledge level had found directly proportional and knowledge level had been established higher in educated people. Patients who have high educational status are more curious about anesthesia and operation experience and want to spend more effort to get accurate information. In contrast to these findings, in the study by Shevde et al.,[17] no relation between anesthesia knowledge and educational level or occupation was found. In our study, it was shown that educational status has statistically significant effect on knowledge level ($P<0.05$). But as the patient number is low in educated group, it is obvious that general population has to be more educated about anesthesia.

Throughout the world, there is very little information about the role of anesthesiologists outside the operating room.[6,13] Despite the fact that most of the intensive care units (ICU) in several countries are managed by anesthesiologists, the public opinion regarding this role is low. A study from England showed that knowledge regarding the anesthesiologist’s role in the ICU was as low as 1% and 25%.[17] In a study by Tohmo et al. from Finland, it was established that Fin patients think anesthesiologists only work in the operating room, they do not know the role of anesthesiologists in the ICU, emergency services, pain clinics, and other invasive processes.[18] In our study, it was showed that the majority of patients (55.6%) know the role of anesthesiologists in the operating room, additionally 43.6% of patients know the role in anesthesia clinic, 4% in the ICU, and 2% of the patients know the role in pain clinics. Applying this survey to only the patients in the anesthesia clinic can explain why they have less information about the role of anesthesiologists in the ICU and pain units.

In a study by Aras et al.,[19] it was showed that being applied anesthesia before, affect the knowledge about anesthesia, but in different studies, it was signed that neither anesthesia experience nor the anesthesia technique which was used before, were influence patients’ knowledge and fears about anesthesia.[17,18] In our study, we showed that patients who have an anesthesia history before have more information about anesthesia ($P=0.001$). According to this result, it can be thought that, to inform patients about anesthesia is important to reduce pre-operative anxiety due to lack of knowledge in the case of re-anesthesia.

In several studies, age and information level about anesthesia are compared. In a study by Jathar et al.,[6] it was showed that younger patients have more information about anesthesia. In other studies, it was determined that there is a reverse relation between age and knowledge level, elderly patients have less information about anesthesia.[7,19] In our study, it was determined that level of knowledge about anesthesia decreases with increasing age but this was not statistically significant ($P=0.187$).
Anxiety is an unpleasant psychological condition for the patient, it leads to alterations in hemodynamic variables and responses to stress in perioperative period, increases anesthetic and analgesic use and complicates post-operative recovery. For this reason, one of the most important targets of the pre-operative visit is to allay anxiety. In the studies which made in our country, as the most common reason of anxiety about anesthesia, Ceyhan[20] found firstly fear of death (30.6%), secondly pain during operation (22.6%); Şekerci[18] found firstly not wake up after operation (51.9%), secondly occurring any negativity (22.1%). In our study, more than half of the patients (52.4%) responded the question “is there any fear about anesthesia?” as “yes,” 31.2% of these patients implied that they are afraid of not to wake up after anesthesia. Other reasons of anxiety are consecutively to wake up during operation, not to sleep completely, to feel pain, to say undesirable things unconsciously, and post-operative nausea–vomiting.

Although Shevde and Panagopoulos[17] found that anesthetists can increase the effectiveness on patients by informing them pre-operatively, Irita and Takahashi[13] insisted on it is more effective to inform patients anesthetists and surgeons together. In these visits, with the presenting the anesthetist himself, spending adequate time with patient, informing him about anesthesia and responding the patients’ questions about anesthesia, the patients’ informing about anesthesia can be provided.

In our study, we established that to determine the patients’ knowledge about anesthesia and anesthetists and inform them about anesthesia and anesthetists are important and it is needed to create a roadmap for how to inform.

CONCLUSION

As it is an important public health problem, to ensure people are informed enough about anesthesia, in general, as well as work to upgrade the educational level, along with hospital policies, individual efforts of anesthetists, and continuous work for the promotion is needed.

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