Determining the Waiting Time for Surgery on Anxiety of Patients Candidates for Elective Laparotomy and Laparoscopic Surgeries

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ABSTRACT

Introduction: Given that there is currently no clear plan to fill patients' waiting times and no attention is paid to this period, the researchers decided to conduct a study on the relationship between preoperative waiting time and anxiety and vital signs in active patients. Candidate for general surgery to be the basis for further studies and proper planning for preoperative waiting time in surgical wards. Material and Methods: This study was a descriptive study that was conducted during 2018 with the participation of 100 patients undergoing elective surgery [laparotomy and laparoscopy] in Imam Reza Hospital [Tabriz University of Medical Sciences]. The waiting time for surgery and its relationship with patients' anxiety [Spielberger Anxiety Inventory] were assessed. Results: There was a statistically significant relationship between the type of surgery and anxiety [p=0.001], meaning that the number of people who were candidates for laparoscopic surgery was higher than the hernia and laparotomy surgery groups. Using correlation tests, it was found that there is no statistically significant relationship between age and anxiety [p=0.071]. Conclusion: The results of the present study showed anxiety in all samples of the study before surgery and there was a statistically significant relationship between the time before surgery and patients' anxiety.

Keywords: Anxiety, Surgery, Time before surgery

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Introduction

One of the important tasks of the medical and nursing team is to reduce patient anxiety and prevent drastic changes in patients' vital signs. Studies have shown that there is a direct relationship between the level of changes in vital signs due to anxiety and the rate of use of anesthetic drugs [1], which means that the higher the level of changes in vital signs, the higher the dose of anesthetics prescribed to the patient. Studies show that most patients waiting for surgery experience severe changes in vital signs due to preoperative anxiety. However, in one study, patients' vital signs before surgery were reported to be within the normal range. Anxiety affects recovery after anesthesia [2]. In addition, it increases postoperative pain, increases the use of analgesics, and prolonged hospitalization, which directly affects treatment costs [3]. The researchers found that the two main causes of preoperative anxiety were waiting time for surgery and cancellation of surgery [4]. A study found that there is a positive relationship between the length of preoperative waiting time and patients' anxiety [4], and this relationship is such that despite receiving the best medication before surgery and full knowledge and confidence in the results of the operation, the longer the waiting time is longer [5]. Given that there is currently no clear plan to fill patients' waiting times and no attention is paid to this period, the researchers decided to conduct a study on the relationship between preoperative waiting time and anxiety and vital signs in active patients. Candidate for general surgery to be the basis for further studies and proper planning for preoperative waiting time in surgical wards.

Material and Methods

This study is descriptive research with code of ethics from Tabriz University of Medical Sciences. All patients who were candidates for elective general surgery and had the characteristics of the research units, formed the research community. According to a similar study in which 46% of patients were candidates for preoperative anxiety surgery and based on the formula, taking into account the error of 0.05 and accuracy [0.05], the sample size was considered equal to 100 people. After introducing and stating the objectives of the study and attracting the cooperation of patients for the study, based on the inclusion criteria in the available method, samples were selected from patients referred to hospitals affiliated to Kurdistan University of Medical Sciences in 2018.

Inclusion / Exclusion Criteria
Inclusion criteria include age 15 to 65 years, candidate of elective surgery, patient with mental, verbal, visual, auditory and olfactory abilities, completing the consent form and willingness to participate in the study, not receiving Psychotropic drugs were narcotics, analgesics and sedatives, no preoperative pain, no underlying diseases, no history of previous surgery in the operating room and no employment in clinical settings. Exclusion criteria include the patient's personal willingness to withdraw from the study and not to cooperate for any reason, instability of the client during the study, and the presence of unusual and anxious noises in the operating room environment.

**Methodology**

The tool used to measure anxiety is the Spielberger Anxiety Inventory. The Spielberger State – Trait Anxiety Inventory [STAI] was created in 1970 by Spielberger. This questionnaire contains 40 questions, which from 1 to 20 questions are dedicated to state anxiety [overt] and from questions 21 to 40 are assigned to adjective anxiety [hidden]. State Anxiety Questions In the Likert scale, there are four scoring options, which are: by no means, sometimes, generally, very much, and trait anxiety questions are scored in the same way as the 4 options, which are: almost never, sometimes, Most of the time and almost always. Collected data include; Demographic characteristics; Level of anxiety; The number of vital signs and the waiting time were recorded in the data sheet for each patient. In order to complete the questionnaire, the researcher obtained permission from the research assistant and obtained research permission and permission from the hospital director and head nurses and explained the research objectives to them and after obtaining patient satisfaction when patients entered the waiting room in the morning shift. Concealment, respiration, temperature, blood pressure and heart rate of patients were measured and recorded by the researcher.

**Ethical considerations**

This study was registered in the ethics committee of Tabriz University of Medical Sciences under the number IR.TBZMED.REC.1398.1163. The samples participating in this study completed the informed consent form and then entered the study.

**Data analysis**
After collecting and entering data in SPSS software version 21, tables and graphs [frequency and percentage] were used to describe qualitative variables and central indicators and dispersion were used for quantitative variables. For data analysis, due to the small number of dependent variables, the statistical tests used in the study were independent t-test, Pearson correlation coefficient and one-way analysis of variance. Nonparametric equivalents of the above tests were used in the data that did not follow the normal distribution. For all tests, a significance level of 0.05 was considered.

Results

The mean age of the patients was 39.09 years [11.4] so that the lowest age was 16 years and the highest age was 64 years [13-15]. Among the samples, 52% were male and 48% were female. 66.3% of patients were married. In terms of education, most patients [82.7%] were literate and most of the patients were 30.6% housewives and then in 26.5% of cases were free. 41% of patients referred for laparotomy. The mean waiting time for patients for surgery was 71.84 [16-18] minutes. The mean of overt and covert anxiety of patients at the entrance to the waiting room was 45.55 [8.35] and 43.97 [8.07], respectively, and the mean of overt and covert anxiety when leaving the waiting room were [8.81], respectively. 47.32 and [84.8] were 46.17. Based on the results of statistical analysis of t-test, a statistically significant relationship was observed between the level of anxiety and gender [p = 0.036]. This means that the level of anxiety in women was higher than men [mean anxiety in men was 43.97 and in women was 47.74]. There was no statistically significant relationship between anxiety and marital status [p=0.082]. Using ANOVA statistical test, it was found that there is a significant relationship between education level with overt entry anxiety and latent entry anxiety, which was higher in people with primary education [p=0.022] but between education level and anxiety [19-21]. There was no significant relationship between overt exit and latent exit anxiety [p=0.071]. There was also a significant relationship between job and anxiety [p=0.014]. This anxiety was greater in homeowners than in others. The results showed that there was a statistically significant relationship between the type of surgery and anxiety [p=0.001], meaning that the number of people who were candidates for laparoscopic surgery was higher than the hernia and laparotomy surgery groups. Using correlation tests, it was found that there is no statistically significant relationship between age and anxiety [p=0.071], which shows the relationship between waiting time and the studied variables, the results of the analysis show that there is a significant relationship between waiting time with entry breathing, overt and covert
anxiety, systolic and diastolic exit pressure, and exit temperature. Correlation test was used for analysis [22-24].

**Discussion**

Anxiety scores above 20 on the Spielberger questionnaire indicated that all patients were anxious. The researchers conducted a study to determine the relationship between waiting time for surgery before surgery and anxiety in patients undergoing cholecystectomy [25-27]. The results showed that patients' anxiety was directly related to preoperative waiting time. In a study of 150 patients admitted to medical hospitals in Tehran, it was found that the level of anxiety in the 24 hours before surgery was higher than anxiety in the second week after surgery. The results of another study also showed that patients are anxious while waiting for heart surgery. The statistical results of the present study also showed a statistically significant positive relationship between preoperative waiting time and anxiety [28-30]. One study found that patients' vital signs before surgery were higher than normal. The results of this study were in line with the results of our study. But the results of a study showed that the vital signs before the operation were in the normal range [8, 31-33]. The reason for the inconsistency of this study with our study may be related to the type of surgery, placebo use, number of samples, preoperative waiting time as well as waiting environment. The present study showed a statistically significant difference between gender and occupation with anxiety [34-36]. There was also a statistically significant relationship between education level and type of surgery with arrival moment anxiety. However, there was no statistically significant relationship between education level and anxiety at the time of leaving the waiting room and also no significant relationship between the type of surgery and overt anxiety at the time of leaving the waiting room [9, 37]. There was also no significant relationship between marital status and age of patients with anxiety [10, 38]. However, in another study, there was no significant difference between age, sex, occupation, marriage and education with anxiety scores. But in another study, there was a significant difference in patients' anxiety scores in terms of marriage and gender, so that anxiety scores were higher in women and single people than others, but no significant relationship was observed between job and education with anxiety scores [11, 39]. Another study found that postoperative anxiety was lower than preoperative anxiety and was related to various variables including age, sex and marital status. The results of a study in Pakistan showed that the level of anxiety before surgery is related to income level and social class and is
inversely related. The difference in results may be due to the small sample size and the difference in the characteristics of the research samples [12, 40].

Conclusion
The results of the present study showed anxiety in all samples of the study before surgery and there was a statistically significant relationship between the time before surgery and patients' anxiety. Due to the fact that there is currently no written plan to manage and fill patients' waiting time and various factors are associated with the severity of anxiety, it is necessary to minimize the complications of surgery. It is suggested that more research be done on other factors related to preoperative anxiety as well as planning to reduce preoperative waiting time.

References
34. AM. Fard, MM. Fard, Eurasian Journal of Science and Technology, 2:14 (2022)

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