

Evaluation of anxiety levels and related factors in patients undergoing abdominal surgery– A Descriptive Correlational Study

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ABSTRACT

Background: surgery is an anxious experience because it threatens the integrity of the whole. Anxiety disorders have been observed in the most patients who are undergoing for surgery. Anxiety lead to delay wound healing and loss of physical and mental energy, and increased hospital stays and increased treatment costs.

Aim: To evaluate the level of anxiety and its related factors in patients undergoing abdominal surgery in Urmia.

Methods: This study was a descriptive correlational research conducted on 80 patients undergoing abdominal surgery in Imam Khomeini and Imam Reza hospitals in Urmia, Iran. Using Spielberger's trait and state anxiety scale data collection was done. The data obtained from the questionnaires were statistically analyzed by SPSS software version 16 with Pearson correlation analyze.

Results: The finding showed that the mean state anxiety and trait anxiety of patients were 46.09 ± 6.73 and 51.11 ± 5.50 respectively, which were at moderate level. Among the demographic variables based on Pearson correlation analysis, gender and age with state anxiety scores ($P = 0.02$, $r = 0.01$) and trait anxiety score ($P = 0.04$, $r = -0.51$) of patients undergoing abdominal surgery, respectively.

Conclusions: preoperative education to patients, in the form of explaining how problems and care they may face and with a simple explanation can prevent their anxiety and thus speed up the chances of recovery and reduced length of stay, hospital costs, and postoperative complications in patients.

INTRODUCTION

One of the situations that can cause anxiety is surgery (1) and its occurrence in patients is not only common, but also very common (2). Surgery can be planned or unplanned, small or large, invasive or non-invasive and involve any part or system of the body (3), but surgery of any kind is an anxious experience because it threatens the integrity of the whole. It is the body and sometimes a threat to life. (4) The preoperative stages, the day of surgery, and worrying about the consequences all cause anxiety. Worrying about lack of control, being in an unfamiliar situation, and feeling threatened with death all contribute to this unpleasant phenomenon. Anxiety begins at the time of planning the operation and peaks as soon as you arrive at the hospital. Anxiety is one of the most common surgical complications that occurs in more than 70% of people (5). Thousands of people undergo abdominal surgery every year (6). Anxiety disorders have been observed in 22% of patients who are candidates for surgery (7).

Emotional anxiety is vague and unpleasant, and in one division, anxiety in the form of physical symptoms (tremors, sweating, palpitations, nausea, diarrhea, dry mouth); Cognitive (decreased concentration, feeling confused, fear of going crazy); Behavioral (arousal, immobility) and perceptual (depersonalization and metamorphosis) are defined, most of which are physical symptoms of anxiety overcoming other symptoms (8) and by stimulating the sympathetic response to tachycardia, hypertension, arterial vasoconstriction, decreased blood flow Leads to wound and relative tissue pressure and, by increasing protein breakdown and decreased immune responses, reduces wound healing and increases the risk of wound infection (10, 9); As a result, by reducing the body's resistance to infection, the patient tends to use more

painkillers and painkillers, leading to delayed wound healing and loss of physical and mental energy, and has a negative impact on the patient's mood and the chance of dying. Rhythm increases blood pressure and exacerbates pain, all of which ultimately lead to increased hospital stays and increased treatment costs (11). The client's level of anxiety about surgery depends on several factors such as the severity of the operation, individual adaptability, cultural expectations, and previous surgical experience (12).

In many cases, one of the pre-surgical nursing diagnoses of patients is the lack of knowledge and fear of surgical incision pain; Therefore, nurses cannot separate this main element of patient education from their intervention program and providing information to the patient about pain, like other nursing measures, should be designed in the patient care plan and evaluated after application (13). Because with the correct understanding of pain and its control by the patient, the anxiety caused by the fear of pain after surgery is reduced and the patient recovers faster (14). The results of a review study by Leino-Kilpi and Leinonen found that nursing intervention for pain before surgery improved the patient's pain and anxiety status, and suggested that more research be done on treating pain and anxiety and educating patients and costs. Surgical care should be provided (15).

The patient's level of anxiety about surgery depends on several factors such as the severity of the operation, the ability to adapt individually, cultural expectations, and previous surgical experience (16). Anxiety is high in women, patients with multiple simultaneous surgeries, surgery for cancer, the first experience in young people, patients with a bad previous experience of surgery (17). Another study found that having a child at home, stopping breastfeeding, fear of not waking up, reduced income, and

waiting in the ward to go to the operating room increased anxiety (18). Therefore, this study was aimed to explore evaluate the level of anxiety and its related factors in patients undergoing abdominal surgery in Urmia.

METHOD

Study design and participants: This study was a Descriptive Correlational to investigate the level of anxiety and its related factors in patients undergoing abdominal surgery in medical education centers in Urmia including Imam Khomeini and Imam Reza hospitals. In this study, the sample size was estimated based on the results of the study of Bagheri et al. (19) and based on the patients' anxiety ratio ($p = 0.85$), the maximum error rate ($d = 5\%$) and with a degree of confidence ($1-\alpha = 0.95$) using the sample volume formula to estimate a ratio in the community 80 was determined. A total of 2 months of sampling lasted during which data were collected from 40 patients undergoing abdominal surgery.

Inclusion criteria included: willing to participate in the study, Ability to read and write, no mood disorders and no systemic diseases such as diabetes and cardiovascular disease, no sedatives, painkillers or anxiolytics more than a month, no history of thyroid disease and Use of effective drugs, no drug addiction, no history of surgery, no score of 76 or higher in overt anxiety and a score of 73 or higher in latent anxiety from the Spielberger questionnaire, age over 18 years and under 65 years. Unwilling to stay in the study was considered exclusion criteria.

Instruments: The first part was related to demographic information, including age, gender, marital status, level of education, work experience and living status.

The second part of the questionnaire was Spielberger's trait and state anxiety scale, which was completed as a self-report. In fact, this questionnaire had two parts, the first part was related to the assessment of the individual's state of anxiety (situational anxiety) and included 20 questions on the Likert scale (very low, low, high, very high). Each option was scored (1 to 4) in order. The second part of the Spielberger questionnaire also has 20 questions, each of which had a grading scale (almost never, sometimes, most of the time, almost always) and to measure a person's anxiety trait (characteristic anxiety), which was given to each of the options. A score of one to four was given, respectively. In the end, the sum of the scores obtained for both parts (position and attribute) was calculated separately and finally a score between 20 and 80 was recorded for each person. In the study of Spielberger et al. Cronbach's alpha coefficient of state and trait anxiety scales was reported to be 0.92 and 0.90, respectively. Also, retest coefficients of state and trait anxiety scales were calculated to be 0.62 and 0.68, respectively (20).

The scoring of this questionnaire was such that each question was assigned a score between 1 and 4 based on the answers given. A score of 1 indicated lack of anxiety and a score of 4 indicated a high presence of anxiety. Therefore, the scores of each of the two scales of overt and covert anxiety can be in the range between 20 and 80. Patients' level of anxiety was considered according to the scores obtained from mild to very severe anxiety. In both overt and covert anxiety, anxiety ranged from 20-31 to mild

anxiety, 42-42 to moderate-to-low anxiety, and 43-53 to moderate-to-high anxiety. In overt anxiety, the degree of anxiety is between 64-54 and in occult anxiety, the score is between 53-62, relatively severe anxiety, score 65-75 in overt anxiety, and anxiety between 73-72 in latent anxiety, severe anxiety, and finally the rate of anxiety is 76 to High in overt anxiety and a score of 73 or higher in latent anxiety were considered very severe anxiety (21).

Previous studies in Iran have examined and confirmed the validity and reliability of the questionnaire (22-21). In the study of Rabiee et al., The validity of the Spielberger questionnaire was measured and confirmed by ten nursing experts (23). Also, the reliability of this questionnaire in Tidman's research using Cronbach's alpha was calculated between 0.86 and 0.95 (24).

Data collection: First, we obtained permission from the research and ethics committee of Urmia University of medical science. Then, we visited Imam Khomeini, and Imam Reza hospitals and obtained permission from the relevant authorities to use practice room and discussed about our study process. The sampling method of these patients was random. In order to select each of the eligible patients, the researcher placed his hand on the table of random numbers with his eyes closed, if the number is even; The patient was included in the study and if the relevant number came to the accident, the patient was left out and this process continued until the completion of the sample size of 80 patients who were candidates for abdominal surgery in hospitals. Patients are then informed of the objectives of the research and complete the informed consent form and questionnaires are provided to them to complete.

Data analysis: 40 patients were entered into the analysis. We used the Kolmogorov–Smirnov test to determine normal distribution of data. The data obtained from the questionnaires were statistically analyzed by SPSS software version 16. For quantitative data, indicators such as mean and standard deviation were reported, and for qualitative data, absolute frequency and percentage were reported. Pearson correlation was used to determine relationship between the level of anxiety and its related factors in patients undergoing abdominal surgery.

RESULTS

The results showed that the mean age of patients was 27.35 ± 4.47 More than half of the patients were male (65%) and the remaining 35% were female. Also, the level of education of the majority of patients (40%) was in reading and writing. It should be noted that the majority of them were married (80%) and 72.5% of them lived in the city (Table 1).

The finding also showed that the mean state anxiety and trait anxiety of patients were 46.09 ± 6.73 and 51.11 ± 5.50 respectively, which were at moderate level (Table 2).

Among the demographic variables based on Pearson correlation analysis, gender and age with state anxiety scores ($P = 0.02$, $r = 0.01$) and trait anxiety score ($P = 0.04$, $r = -0.51$) of patients undergoing abdominal surgery, respectively. Moreover, Pearson test showed that there was no statistically significant relationship between

patients' trait and state anxiety scores with education level, marital status and residence status (Table 1).

Table 1: Demographic characteristics of patients and their correlation with patients' state and trait anxiety scores

Variables		Number	Percent	Correlation to state anxiety	Correlation to trait anxiety
Gender	Female	28	35	P=0.02 r=0.01	P=0.13 r=0.51
	Male	52	65		
Marital status	Single	24	30	P=0.15 r=1.67	P=0.55 r=0.89
	Married	56	80		
Living status	Rural	22	27.5	P=0.32 r=0.11	P=0.45 r=1.91
	Urban	58	72.5		
Level of Education	Ability to write and read	32	40	P=0.22 r=0.30	P=0.51 r= - 1.01
	Elementary	13	16.3		
	Secondary	15	18.7		
	University	20	25		
Age	Mean	27.35	Standard deviation	P=0.64 r=0.31	P=0.04 r=-0.51
			4.77		

Table 2: trait and state anxiety scores of patients undergoing abdominal surgery

Variables	Number	Mean	Standard deviation
State anxiety	80	46.09	6.73
Trait anxiety	80	51.11	5.50

DISCUSSION

The aim of this study was to determine the level of trait and state anxiety in patients undergoing abdominal surgery and its relationship with demographic variables. As the results show, the patients' average anxiety score was moderate to high, indicating that most patients undergoing abdominal surgery experience some level of anxiety. The results also showed that among the demographic variables, respectively, gender and age were found to have a direct relationship with patients' state and trait anxiety scores.

In line with our result, the findings of Babashahi et al (2012) showed that the majority of preoperative research units experienced moderate to high anxiety (25). Also, the result of the present study is consistent with most studies that have been done in the field of preoperative anxiety (26-27). Although abdominal surgery such as inguinal hernia is a selective procedure and the patient is not in a critical or emergency situation, moderate to high levels of anxiety were observed in most patients in the present study. This indicates that surgery, although low risk, is an anxious and stressful factor and is very thought-provoking and highlights the need for serious intervention in this area. Among the scores of state anxiety and trait anxiety before surgery, the trait anxiety score was higher than the state anxiety score that patients experienced. The findings of the present study in this field are similar to the findings of the studies of Ghanei et al. (2013) entitled the study of the relationship between state and trait anxiety before cesarean section. The findings of this study showed that about half of women, they had state anxiety, and considered pre-surgery fear and anxiety as their most important concerns (28).

In this regard, educating the patient about pain control can reduce the feeling of fear to some extent. Another study found that educating patients about pain control reduced preoperative anxiety in patients and could be performed by nurses as a non-pharmacological intervention, but some studies have reported that education giving to the patient makes them more sensitive and causes patients to feel more anxiety and pain (29). Also, a study conducted on 60 patients admitted to the cardiac surgery ward to identify anxiety factors and various ways to

control it, concluded that most patients have degrees of moderate to severe anxiety, and most in The result of surgery and lack of familiarity with the environment and its consequences need to be informed (30). Providing the necessary training by the surgeon and anesthesiologist about the complications and consequences of the operation are one of the most important factors in relieving stress (31). The findings of the present study also showed that there is a relationship between age and gender with the level of anxiety, which means that with age the level of anxiety increased and anxiety in males was higher than females, It showed that the amount of anxiety before the operation was not gender dependent, it is not consistent. Also, according to the results of the studies of Chmielnicki et al. (32), there is no relationship between the type of surgery and anxiety. The reason for this difference may be due to differences in the research community and cultural and social issues in that community. Therefore, in the evening before the operation, the approximate time of the surgery must be told to the patient, and when there is a possibility of delaying the surgery due to unwanted reasons, the patient should be well justified. In addition, because thirst is one of the anxious factors and it exacerbates with longer waiting time, it is better for patients who are at the bottom of the surgical list not fast for more than 6 hours to avoid dry tongue, thirst and increased Anxiety should be avoided (33).

One of the limitations of this study is the existence of some environmental, psychological and psychological factors while completing the questionnaires that can affect the level of anxiety of patients who were not under the control of the researcher and could affect the results of the study. In addition, since this study was performed on patients undergoing abdominal surgery, it is recommended that future studies with a larger sample size to evaluate the results on the same type of patients to check the level of anxiety of patients.

CONCLUSIONS

It can be concluded that preoperative education to patients, in the form of explaining how problems and care they may face and with a simple explanation can prevent their anxiety and thus speed up the chances of recovery and reduced length of stay, hospital costs, and postoperative complications in patients.

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