

The Effect of Education on the Anxiety Level of Patients Before Thyroidectomy

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Purpose: *The present study aims to evaluate the effect of preoperative education on the level of anxiety provided to patients scheduled for thyroidectomy using education brochures on the level of anxiety.*

Design: *The study design was quasi-experimental.*

Methods: *The study data were collected using the Patient Information Form and the Turkish version of the Anxiety Specific to Surgery Questionnaire (ASSQ). Study group patients were informed by brochure before 24 hours. Control group patients were informed verbally during routine preoperative preparation or 1 day before surgery. Test and control group patients were resubjected to the ASSQ before being transported from their unit beds to the operating room.*

Findings: *There was no significant difference in the mean scores of the pretest and final test ASSQ scores for the test and control groups ($P > .05$).*

Conclusions: *Our study results showed that education provided to the patients scheduled for thyroid surgery using written materials did not affect anxiety.*

Keywords: *thyroidectomy, anxiety, surgery-specific anxiety, nursing education.*

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THYROID DISEASES ARE A COMMON group of disorders worldwide and in Turkey.¹ Approximately 200 million people are affected by treatable thyroid disorders²; untreated thyroid diseases may cause severe and permanent problems.²

Anxiety is a human reaction to any unknown situation. Although perioperative anxiety is considered to be a normal part of the surgical

experience, it is a pervasive problem with far-reaching health outcomes.³ The reported incidence of preoperative anxiety ranges from 60% to 92% in unselected surgical patients.⁴

Preoperative patient education provides patients with information about their surgery, which can help them feel better about the impending event. Preoperative education can also correct misunderstandings, give patients a sense of control over their roles and responsibilities on their care, and contribute to positive surgical outcomes.⁵ Review of the literature reveals that there is a high level of anxiety in the preoperative period in patients undergoing surgery.⁶⁻¹³ Many authors investigated the effect of education on the level of anxiety. Some studies reported a decrease in anxiety related to education,¹⁴⁻¹⁶ and others reported an increase in the level of anxiety.¹⁷

In the present study, we aimed to evaluate the effect of written (information brochures) preoperative education provided by nurses to patients

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Funding: This study was conducted as a thesis study and funded by Çukurova University, Scientific Research Projects Coordination Unit (number ASYO2013YL2).

Conflict of interest: None to report.

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1089-9472/\$36.00

<https://doi.org/10.1016/j.jopan.2018.05.017>

scheduled for thyroidectomy on their levels of anxiety.

Materials and Methods

Study Design

The research was conducted using a quasi-experimental design with control and test groups and pretest and final test design. The study was carried out in general surgery clinics at a tertiary care hospital.

Setting and Sample

The study comprised patients who were admitted to general surgery clinics at a tertiary care hospital between January and June 2015 and who were scheduled for thyroidectomy. In light of the literature review related to this study, the strength analysis with a type I error (σ) of 0.05 and a statistical power of 0.80 revealed that 30 could be assigned to each group.⁷ The study sample consisted of 62 patients—32 of whom were in the test group and 30 of whom were in the control group. The first 32 participants who met the study criteria on the day the researcher visited the clinic were assigned to the test group and the other 30 participants who met the study criteria were assigned to the control group. Cronbach's α value of the scale was 0.76.

Inclusion criteria were age 18 years or older, no communication problems (not hearing and speaking disabled), fluent in reading and speaking the Turkish language, a voluntarily signed written consent, benign disease, and lack of any psychiatric diagnosis. Exclusion criteria were a history of thyroid cancer and reading comprehension was not good.

Measures

The study data were collected using the Patient Information Form prepared by the investigators and Anxiety Specific to Surgery Questionnaire (ASSQ) developed by Karanci and Dirik in 2003 for the evaluation of the level of surgery-related anxiety.^{6,7} Data were collected using the face-to-face interview method.

PATIENT INFORMATION FORM. The Patient Information Form contained questions about the patients' diagnosis, age, sex, occupation, marital status, childbearing status, educational status, social security, previous history of hospitalization, previous history of surgery, and from whom they wish to obtain information about their disease and surgery.^{6,7}

ANXIETY SPECIFIC TO SURGERY QUESTIONNAIRE. The ASSQ is a Likert-type measurement tool.⁷ The items mainly reflected fears about pain and dying during the surgery and postsurgery complications and restrictions. The 10 items were presented with a five-point Likert response format (1 = do not agree at all, 5 = completely agree).⁷ Only eight items are scored inversely before summing the total score (5 = strongly disagree, 1 = strongly agree). Total score of the scale varies from 0 to 50 points.

INTERVENTIONAL MATERIAL. The printed "Thyroid Gland Surgery Patient Information Brochure" used as the education material was prepared by the investigator in accordance with the literature data. This brochure contains the following headings: structure of the thyroid gland, functions of the thyroid hormones, conditions requiring surgery in the presence of thyroid disorder, thyroid surgery, risks of surgery (complications), procedure before surgery, exercise education before surgery "respiratory and cough exercises, turning in the bed and foot exercises, head-neck exercises for thyroid surgery;" to do list the night before and in the morning of surgery, clinical course after surgery, and recovery period.

Data Collection

The test and control group patients who satisfied the sample criteria and were hospitalized at the General Surgery Clinic were subjected to the Personal Information Form and ASSQ after admission to the unit.

TEST GROUP. Twenty-four hours before surgery, education based on the Thyroid Gland Operation Patient Information Brochure was provided to test patients. In the literature, it is emphasized

that the best time for the patient education is the day before the surgery instead of day of surgery. The patient is able to learn and absorb the education provided by the nurse better when the anxiety level is low. Anxiety and fear are barriers for learning, and both emotions increase as the surgery time becomes closer.^{18,19} Patients were asked to read the brochure carefully. Preoperative breathing and coughing, turning exercises, and head and neck exercises were performed, nothing was left unexplained and all questions were answered. Trainings were provided face-to-face by the researcher in the patient's room. The session was conducted after the patient read the brochure and took about half an hour. Test group patients were resubjected to the ASSQ before transportation from their unit beds to the operating room (OR; Figure 1).

CONTROL GROUP. Patients did not receive any nursing care or practice sessions except for routine nursing care. Patients were taught and practiced deep breathing and coughing and turning. Control group patients were resubjected

to the ASSQ before transportation from their unit beds to the OR (Figure 1).

Ethical Consideration

Before commencing the study, ethical approval was received from the Çukurova University Faculty of Medicine Ethics Committee (Decision no 13; Date November 8, 2012) as well as the written permission of the hospital in which the study would be conducted. The study was conducted in accordance with the principles of the Declaration of Helsinki.

Statistical Analysis

Statistical analysis was performed using SPSS 18 software (SPSS Inc, Chicago, IL). The descriptive data were expressed in numbers, percentages, means, and standard deviations. The Student *t* and χ^2 tests were used to evaluate the relationship between dependent and independent variables. A *P* value of $< .05$ was considered statistically significant.

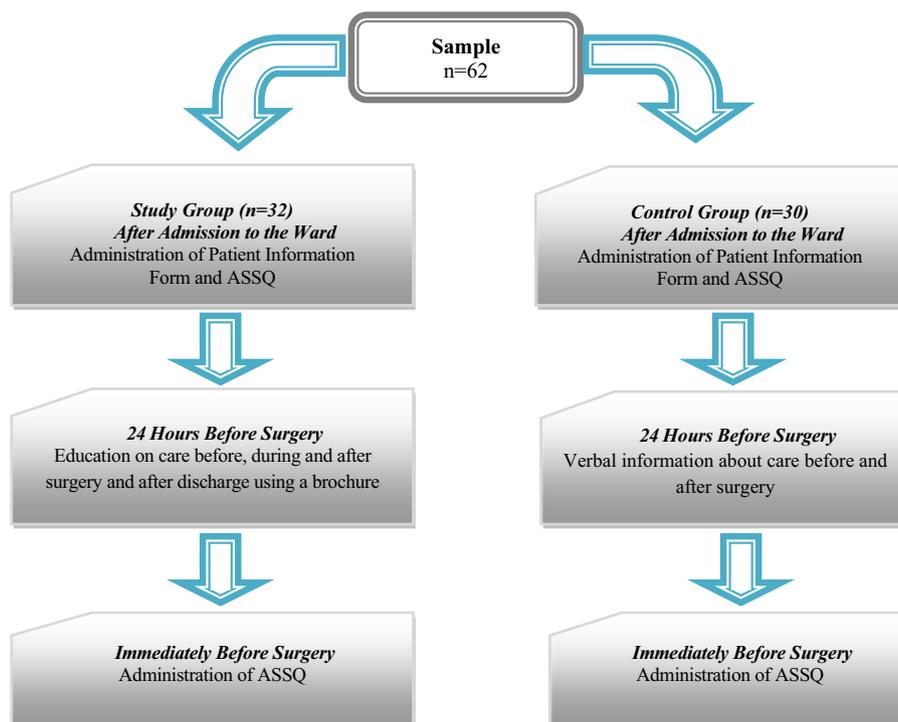


Figure 1. Study diagram. ASSQ, Anxiety Specific to Surgery Questionnaire. This image is available in color online at www.jopan.org.

Results

Table 1 shows demographic characteristics of the patients, including age, sex, occupation, marital status, childbearing status, social security, diagnosis, educational status, history of hospitalization, history of previous surgery, and from whom they wish to obtain information about their disease and surgery. There was no statistically significant

difference in demographic characteristics between the test and control groups ($P > .05$) (Table 1).

No statistically significant difference was found between the mean ASSQ scores of the test and control group patients with regard to age, sex, occupation, marital status, childbearing status, social security status, level of education, history of hospitalization, history of surgical experience, descriptive information

Table 1. Distribution of Patients Based on Demographic Characteristics

	Study Group (n = 32)	Control Group (n = 30)	Analysis
	$\bar{x} \pm SD$	$\bar{x} \pm SD$	
Age	45,66 \pm 12,07	46,20 \pm 13,24	$t = 0.169$ $P = .866$
Gender, n (%)			
Male	5 (15.6)	9 (30.0)	$\chi^2 = 1.830$
Female	27 (84.4)	21 (70.0)	$P = .147$
Education, n (%)			
Literate	4 (12.5)	2 (6.7)	
Secondary	22 (68.7)	25 (83.3)	$\chi^2 = 5.518$
University	6 (18.8)	3 (10.0)	$P = .238$
Occupation, n (%)			
Officer	4 (12.5)	3 (10.0)	$\chi^2 = 4.317$
Worker	0 (0.0)	2 (6.7)	$P = .505$
Housewife	23 (71.9)	21 (70.0)	
Retired	3 (9.4)	4 (13.3)	
Self-employment	1 (3.1)	0 (0.0)	
Student	1 (3.1)	0 (0.0)	
Marital status, n (%)			
Married	25 (78.1)	28 (93.3)	$\chi^2 = 2.886$
Single	7 (21.9)	2 (6.7)	$P = .089$
Child, n (%)			
Yes	25 (78.1)	25 (83.3)	$\chi^2 = 0.269$
No	7 (21.9)	5 (16.7)	$P = .423$
Social security, n (%)			
Yes	29 (90.6)	28 (93.3)	$\chi^2 = 0.153$
No	3 (9.4)	2 (6.7)	$P = .531$
Diagnosis, n (%)			
Multinodüler Guatr	29 (90.7)	29 (96.7)	
Toksik Adenom	2 (6.2)	0 (0.0)	$\chi^2 = 1.938$
Graves	1 (3.1)	1 (3.3)	$P = .380$
History of hospitalization, n (%)			
Yes	22 (68.8)	24 (80.0)	$\chi^2 = 1.024$
No	10 (31.2)	6 (20.0)	$P = .236$
History of previous surgery, n (%)			
Yes	17 (53.1)	20 (66.7)	$\chi^2 = 1.180$
No	15 (46.9)	10 (33.3)	$P = .204$
Consultant, n (%)*			
Doctor	16 (50.0)	22 (73.4)	
Nurse	0 (0.0)	1 (3.3)	$\chi^2 = 5.410$
Doctor-Nurse	16 (50.0)	7 (23.3)	$P = .067$

\bar{x} , Median.

*Person who requested information regarding the procedure.

about disease, and surgical operation ($P > .05$). In the test group, the mean pretest and final test ASSQ scores were 25.21 ± 8.45 and 26.90 ± 8.18 , respectively. However, scores did not reach statistical significance ($P > .05$). In the control group, the mean pretest and final test ASSQ scores were 24.43 ± 6.70 and 26.73 ± 7.88 , respectively. However, scores did not reach statistical significance ($P > .05$). In addition, in the test group, the mean pretest and final test ASSQ scores were 25.21 ± 8.45 and 26.90 ± 8.18 , respectively, not reaching statistical significance ($P > .05$). Although there was an increase in the level of anxiety after education in the test group, the difference was not statistically significant ($P > .05$) (Table 2).

Discussion

We studied preoperative education and the level of anxiety for patients scheduled for thyroidectomy using information brochures. We found similar ASSQ scores in both groups. In a study by Findik and Topcu⁶ of 154 patients undergoing scheduled emergency or ambulatory surgery, a mean ASSQ score of 23.76 ± 7.12 was found in the preoperative period. Kelleci et al⁹ evaluated the level of depression and anxiety in 247 inpatients and found anxiety in the preoperative period in patients hospitalized in the surgical ward. In another study, Jafar and Khan²⁰ examined the prevalence of anxiety in the preoperative period in surgical wards and found anxiety in 62% of the patients. Similarly, Jawaid et al²¹ evaluated the anxiety status of patients undergoing elective surgery and reported a considerable anxiety in the preoperative period. Cetinkaya and Karabulut¹⁰ reported anxiety in patients undergoing abdominal surgery.

Results from many studies, which investigated preoperative anxiety level, demonstrated that apart

from being hospitalized for surgery, the meaning of surgery for the patient and perioperative complications resulted in anxiety. Patients undergoing thyroidectomy were particularly faced with serious anxiety factors such as aesthetic appearance at the incision site and fear of loss of voice or quality of voice. As a result, it was anticipated that hospitalized patients preparing for a thyroidectomy would be expected to have anxiety levels.

The present study, however, found no statistically significant difference between the mean ASSQ scores of patients in the test and control groups. Consistent with the findings of the present study, several studies have shown that preoperative education has no significant influence on the level of anxiety.²²⁻²⁷

Acar and Findik²⁸ investigated the level of anxiety and perceptions of the patients on nursing care in the OR and reported no significant difference between the level of anxiety in patients receiving education before surgery and patients who did not receive education before surgery. Ortiz et al²⁴ also evaluated the effect of education provided with brochures before surgery on the level of surgery-related anxiety and reported no statistically significant difference between the anxiety level of patients who received education with information brochures and those who did not. In the study by Sönmez²⁹ the comfort and anxiety experience of patients undergoing coronary artery bypass grafting were assessed. The patients had a moderate level of anxiety; however, there was no significant difference before and after education.²⁹ In another study, Yazar³⁰ evaluated the effect of preoperative education on the level of anxiety in patients undergoing open heart surgery. The authors reported that all patients had high state and trait anxiety scores. In the aforementioned study, the state anxiety scores in the morning of surgery showed a decline in the test group receiving education, compared with the mean scores before education. However, the difference was not statistically significant.³⁰ Furthermore, Goodman et al evaluated the effects before cardiac surgery in the nurse-led teaching on the level of anxiety. The authors found a lower level of anxiety in the test group compared with the control group, although the difference between the groups was not statistically significant.²⁷ In another study, Bahar and Tasdemir³¹ investigated the level of

Table 2. Intra-group Median Score Comparison of Pretest and Final Test ASSQ Between Study and Control Groups

Group	n	ASSQ	ASSQ	Analysis	
		Pretest $\bar{x} \pm SD$	Final Test $\bar{x} \pm SD$	t	P
Study	32	25.21 ± 8.45	26.90 ± 8.18	1.32	.197
Control	30	24.43 ± 6.70	26.73 ± 7.88	1.94	.062

ASSQ, Anxiety Specific to Surgery Questionnaire; \bar{x} , median.

anxiety and depression in patients hospitalized in the surgical and nonsurgical wards and reported no significant difference among the patients who received information and those who did not.

There are still uncertainties regarding the appropriateness and effectiveness of various modes of delivering preoperative education. When selecting training methods, the needs and individual characteristics of patients may be taken into consideration. Considering the importance of individualized care, the same training method should not be expected to have the same effect on the anxiety level for each patient.

Limitations of the Study

This study was limited to patients who were hospitalized in the surgical ward of Çukurova University,

Faculty of Medicine, General Surgery Clinic, and who were scheduled for thyroidectomy. Its small sample size and inclusion of only volunteers with benign thyroid disease are the other limitations of this study. Therefore, our results cannot be generalized to the overall population.

Conclusions

On the basis of our study findings, education provided by nurses in the preoperative period did not affect the level of anxiety in these patients. However, nurses should be informed about the negative effects of anxiety on the patient.

Acknowledgment

We would like to thank all patients who agreed to participate in this study.

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