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Research Article/Özgün Araştırma

The effect of education on quality of life in accordance with the requirements of patients with laparoscopic cholecystectomy surgery

Laparoskopik kolesistektomi ameliyatı olan hastaların gereksinimlerine göre verilen eğitimin yaşam kalitesine etkisi

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Abstract

Aim: The study was conducted to determine the learning needs of patients, who underwent laparoscopic cholecystectomy, and to determine the effect of education, which was given to the patients according to their learning needs on the quality of life afterwards the procedure.

Materials and Methods: The study was executed with 140 patients (50 control, 50 experimental, and 40 patients for learning needs). The data of the study was collected with utilizing the Patient Learning Needs, the World Health Organization (WHO) Quality of Life Scales. In the first stage of the study, Patient Learning Needs Scale was applied to patients, who underwent cholecystectomy, and the educational contents were determined according to their learning needs.

Results: It was found that the patients most needed to learn about Treatment and Complications. It was determined that the education given in line with the learning needs increased the quality of life of the patients.

Conclusion: The quality of life of the experimental group patients, who received training, was higher than the control group. The education given to patients in line with their needs can increase their quality of life.

Keywords: Laparoscopic cholecystectomy; Quality of life; Patient education.

Öz

Amaç: Çalışma, laparoskopik kolesistektomi geçiren hastaların hem öğrenme ihtiyaçlarını hem de hastalara öğrenme ihtiyaçlarına göre verilen eğitimin işlem sonrası yaşam kalitesine etkisini tespit etmek için yapılmıştır.

Gereç ve Yöntem: Çalışma 140 hasta (50 kontrol, 50 deneysel ve 40 öğrenme ihtiyacı olan hasta) ile yürütülmüştür. Araştırmanın verileri Hasta Öğrenme İhtiyaçları, Dünya Sağlık Örgütü Yaşam Kalitesi Ölçeği kullanılarak toplanmıştır. Çalışmanın ilk aşamasında laparoskopik kolesistektomi yapılan hastalara Hasta Öğrenme İhtiyaçları Ölçeği uygulanmış ve öğrenme ihtiyaçlarına göre eğitim içerikleri belirlenmiştir. Öğrenme ihtiyaçlarına göre eğitim programı hazırlanmış ve uygulanmıştır. Bu aşamadan sonra hastaların yaşam kalitesi ölçülmüştür.

Bulgular: Hastaların en fazla Tedavi ve Komplikasyonlar konusunda öğrenme ihtiyaçları olduğu bulundu. Öğrenme gereksinimleri doğrultusunda verilen eğitimin hastaların yaşam kalitelerini arttırdığı saptandı.

Sonuç: Eğitim alan deney grubu hastalarının yaşam kaliteleri kontrol grubuna göre daha yüksekti. Hastalara ihtiyaçları doğrultusunda verilen eğitim onların yaşam kalitelerini artırabilir.

Anahtar Kelimeler: Laparoskopik kolesistektomi; Yaşam kalitesi; Hasta eğitimi.

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Introduction

Cholecystectomy is a preferred method in the treatment of gallbladder stones. Gallstone disease is common throughout the world. Approximately 5% to 25% of the adult western population has gallstones.[1] The increase in gallstone incidence is attributed to negative changes in lifestyle and nutritional habits.[2] As a result of advances in the health system in recent years, the hospitalization period of the patients has been tried to be reduced in order to decrease the cost and to prevent the complications such as hospital infections. Laparoscopic cholecystectomy is the removal of the gallbladder, also known as bloodless surgery, performed with the help of a video camera and two thin instruments. Depending on the situation, the post-treatment care, the follow-up obligations of the patients and their families also increase. A good discharge-training plan should be prepared to improve patient and family care needs, and it can protect them from complications.[3]

Planned discharge training positively affects the healing process of the patients and ensures the transition of the postoperative period without any complications. It is stated that with a planned discharge-training, the patients will have fewer problems in their home treatment and care, anxiety levels will be reduced, and hospitalizations will be prevented after a laparoscopic cholecystectomy.[4-6] For these reasons, the determination of the learning needs of patients will guide the planning of the discharge-training to be prepared.

Although there are obstacles in providing education to patients, it is a patient right. One of the most important tasks of the nurse is to provide training to the patient, and it is also one of the indicators of the quality of care of the surgical patient.[7] As a result of the literature review, we did not find any study evaluating the results by providing training for the patients with laparoscopic cholecystectomy. This study was deemed necessary because there is no study in the literature to determine the learning needs of patients with laparoscopic cholecystectomy. After the learning needs were determined, the patient education program was prepared, implemented and evaluated in line with the needs determined as the second step of the research. The effect of patient education given according to the determined needs on an important parameter such as quality of life makes the research unique.

The laparoscopic cholecystectomy is performed daily. The short duration of the procedure causes patients to stay in the hospital for a shorter period, and to complete a significant period of the recovery process at home. A short stay of hospital and lack of sufficient time to provide the necessary information can cause the patients to experience some problems at home and unfamiliarity with how to solve the problems. It is a known fact that it is possible to prevent such problems, and the patients can return to their normal lives in a shorter time, if they are provided with training, which was planned according to their needs. The most important criterion in providing training is the determination of the information needs of the patients. The identification of the information needs will enable patients to achieve a positive effect in a shorter time. The self-care of patients on their own and the fulfillment of their daily responsibilities will cause a significant increase in the quality of life of the individuals.[3, 8]

This study was conducted to determine the learning needs of the patients with laparoscopic cholecystectomy, to create a patient education program according to the determined learning needs, and to determine the effect of this education program on the quality of life.

H0: Being informed about the education program prepared according to the learning needs of the patients who will undergo laparoscopic cholecystectomy does not affect the quality of life of the patients.

H1: Informing the patients who will undergo laparoscopic cholecystectomy with the education program prepared according to their learning needs affects the quality of life of the patients.

Materials and Methods

Research type

The research is of the experimental type.

Population and sample of the research

The research was conducted at the General Surgery Clinic at a public hospital in Gaziantep, a city in the central part of Turkey. The study population consisted of the patients with laparoscopic cholecystectomy. The sample size of the study was calculated as 100 with Stats Direct using the following values: α=0.05, β= 0.20 and 1β= 0.80. Inclusion criteria for the study; Being between the ages of 18-75, not having any psychiatric disease, being a volunteer, and being able to speak Turkish. Patients whose surgery started laparoscopically and had to end with open surgery were not included in the study. Patients, who met these criteria, and who will undergo laparoscopic cholecystectomy, formed the sample of the study.

Instruments

The study data were collected with the Personal Information Form, Patient Learning Needs Scale (PLNS) and World Health Organization Quality of Life Scale (WHOQOL).

Personal Information Form

It is a form, consisting of 3 questions about the socio-demographic characteristics such as age, gender, educational status.

Patient Learning Needs Scale (PLNS)

The Learning Needs Scale was developed by Bubela et al.[9] The validity and reliability of the scale in Turkey were performed by Çatal and Dicle.[10] The Scale of the Learning Needs of Patients consists of 50 items and seven sub-dimensions (drugs, life activities, community and monitoring, mood, treatment and complications, quality of life, and skin care). The scores obtained from the scale vary between 50 and 250. High scores indicate the importance level of the need for learning. The Cronbach Alpha value of the scale was found to be 0.95. In our study, the Cronbach Alpha value of the scale was found to be 0.72.

World Health Organization Quality of Life Scale

World Health Organization Quality of Life Scale (WHOQOL-BREF) is a comprehensive scale developed by World Health Organization (WHO), which measures the well-being of a person and allows the cross-cultural comparisons. Its adaptation to Turkish was performed by Fidaner et al.[11] In the current study, the Cronbach Alpha value of the scale was found to be 0,82.

Data analysis

SPSS 20 (Statistical Package for Social Sciences) program was used to analyze the data. The distribution of variables, such as age and sex of the first 40 patients whose learning needs were determined, was made by number and percentage (Table 1), and the sub-dimensions that needed the most learning were represented by means and standard deviations (Table 2). Shapiro Wilk Test was performed to determine whether the research data was normally distributed. The value ($p<0.05$) was accepted as the statistical significance limit in the study. The homogeneity of the patients in the experimental and control groups included in the study in terms of certain variables was examined with the Chisquare Test (Table 3). The mean quality of life scores of the patients in the experimental and control groups according to their socio-demographic characteristics were evaluated with the Independ Sample T-test.

Table 1. The socio-demographic of the patients whose learning needs were determine (n= 40).

Socio-demographic Features of the Patients	n	%
Gender		
Female	34	85
Male	6	15
Education		
Illiterate	12	30
Literate-primary school	21	52.5
High school-university	7	17.5
Age average 49,45± 14,45		

Table 2. The total and mean score of the sub-dimensions of the patients' learning needs (n= 40).

PLNS Total and Sub-Dimensions	Mean	SD	Min–Max
Treatment and Complications	40.87	3.55	29–45
Life Activities	35.70	6.23	17–45
Drugs	33.90	3.20	27–40
Quality of Life	31.57	3.94	21–39
Community and Monitoring	20.85	2.16	17–26
Mood	20.45	3.40	12–25
Skin care	15.12	4.69	7–25
Total	198.47	16.91	151–224

Table 3. The socio-demographic features of experimental and control group.

Socio-Demographic Features	Experimental Group (n=50)		Control Group (n=50)		Significance
	n	%	n	%	
Age					
25-40	23	46	14	28	$p>0.05$*
41-60	23	46	30	60	
61 and above	4	8	6	12	
Gender					
Female	43	86	45	90	$p>0.05$*
Male	7	14	5	10	
Education					
Illiterate	14	28	12	24	
Literate-primary school	29	54	31	62	$p>0.05$*
High school-university	7	18	7	14	
Age average	47.32±13.21		42.82±13.80		

Ethical consideration

The study was performed according to the Helsinki Declaration, and the Hasan Kalyoncu University's Non-interventional Researches Ethics Committee (Date: 02.05.2017, Decree No.: 2017/05) approved the present study. After the patients were admitted to the clinic and the surgery days were decided, necessary explanations were made in the patient rooms the day before the surgery. The purpose and method of the study were explained to the participants by the researcher, and their written consents were obtained.

Procedure

The research was carried out between July and December 2017. The research was carried out in 3 stages. In the first stage of the study, 40 patients with cholecystectomy were enrolled in the study before the discharge, and the learning needs of the patients were determined by applying the PLNS scale. The data obtained from these 40 patients were coded into the SPSS (Statistical Package for Social Sciences) program and the statistical analyzes were made and the areas, where the patients needed learning the most were determined. In accordance with the determined learning needs, the second stage of the study, a training program was created for the patients. The details and the intensity of the training subjects varied according to the patients' need for learning. The researcher gave the training orally by taking into account the certain titles, and in written form as a training booklet. Patient trainings were carried out in the patients' rooms when the patients felt well.

The first 50 patients who were admitted to the clinic for laparoscopic cholecystectomy and met the sampling criteria were included in the control group, and a preoperative sociodemographic characteristics form was filled. After ten days of operation, patients' quality of life was evaluated using the WHOQOL - BREF scale. The patients in the experimental group were trained in accordance with the program created while collecting the data of the control group. In the third and final stage of the study, the sociodemographic characteristics form was applied to the patients in the experimental group. The patients in the experimental group were given training on the day, when they were hospitalized. The quality of life of the patients in the experimental group

was evaluated using the WHOQOL - BREF scale 10 days after discharge. The data of the experimental and control groups were analyzed in terms of their homogeneity, and it was seen that they were homogeneous. A single researcher trained the patients in order to standardize the training given to the experimental group. This researcher used the checklist of educational topics for each patient.

Results

The sociodemographic characteristics of the patients participating in the first phase of the study were shown in Table 1, and the learning needs of the patients were shown in Table 2.

Average age of the patients was 49.45. 85% of the patients were women, and 52.5% were literate/primary school graduates.

The mean scores of PLNS sub-dimensions of the patients included in the study were given in Table 2. Patients were most in need of learning in the treatment, and complications sub-dimension. In addition, the learning needs of the patients were high in the activities of living and drugs. The patients also had learning needs in terms of quality of life, community and follow-up, mood, and skin care subscales.

The socio-demographic characteristics of the patients included in the second stage of study were shown in Table 3. The mean age of the experimental group was 47.32, and the mean age of the control group was 42.82. 86% of the experimental group and 90% of the control group were female. The patients of the experimental group and the control group were compared in terms of their socio-demographic features, and no statistically significant difference was found between the groups (p>0.05).

The comparison of the mean scores of the sub-dimensions of the quality of life scale of the experimental and the control groups were given in Table 4. The scores of all sub-dimensions of the experimental group were higher than those of the control group. However, the difference between the groups in the sub-dimensions of Physical health, Psychological, Social relations and Environment is not significant (p>0.05). It was found that the mean scores of the general health status scores of the patients in the experimental group were higher than the control group, and the difference between groups was found to be significant (p<0.05). The quality of life of the patients in the experimental group was higher than the control group. The difference between the groups was found to be statistically significant (p<0.01).

Table 4. The scores of the patients in the experimental and control group obtained from the sub-dimensions of the WHOQOL scale (n=100).

WHOQOL Sub-dimension	Experimental Group (n=50)		Control Group (n=50)		t test Significant
	Min-Max	x̄±SS	Min-Max	x̄±SS	
General state of health	3–9	6.86±1.22	3–8	6.22±1.20	***p*=0.010** t= 2.634
Physical health	18–66	24.76±6.61	15–31	22.86±3.84	*p*=0.082 t= 1.756
Psychological	14–26	19.52±2.58	11–26	19.36±3.66	*p*=0.801 t= 0.252
Social relations	9–13	11.32±0.86	7–13	10.92±1.87	*p*= 0.174 t= 1.371
Environment	24–35	29.92±2.49	17–36	29.08±3.75	*p*=0.191 t= 1.317
Total	57–106	92.38±10.07	75–140	88.44±11.84	***p*=0.000** t= 81.323

Discussion

The training given in line with the needs can accelerate the recovery by guiding the patient on what to pay attention to before, during and after the surgery and what kind of path to follow. Providing education on the subjects that the patient needs can be an important factor in reducing the fear of the unknown, which increases the anxiety and stress. As the learning needs of the individual increases, the score obtained from the patient learning needs

scale also increases. In the present study, the mean scores of the patient learning needs were found to be 198.47±16.91 (Table 2). The highest total score that can be obtained from the PLNS is 250, and the lowest score is 50. Considering that, it was found that the post-operative learning needs of the patients were above average.

In the study conducted by Çatal and Dicle with surgical patients, the learning needs of the patients were found to be 190.81±17.0.[10] Taşdemir et al. conducted a study on neurosurgery patients, and this rate was found to be 198.75±30.6. [12]

In their study, Orgun and Şen found the total score of the PLNS of general surgery patients as 201.73±25.16.[13] Demirkıran and Uzun found that the total score of PLNS was 183.48±23.26 in the patients who underwent coronary bypass surgery.[14] Başaran and Yılmaz found that the mean learning need score of the patients undergoing abdominal surgery was 207.52±24.14.[15] In Deniz's study,[16] this score was found to be 215.6±27.9. In domestic and foreign studies, the learning needs of patient groups, who had different operations in varied clinics, were found to be above average. In this regard, the findings of the present study are in line with the literature. This finding is very important in terms of determining the learning needs and eliminating the deficiencies in this patient group in order to ensure adaptation to normal life after surgery.

When the PLNS total and subscale mean scores were examined, it was determined that the patients had the highest learning needs in the treatment and complications sub-dimension, secondly in the living activities, and thirdly in the drugs sub-dimensions.

Similarly, in a study of patients undergoing abdominal surgery, they found that the treatment and complications sub-dimension was the area, where patients need the most information. It was followed by the learning needs in the subscales of life activities, and it was determined that the learning needs were high in the medications sub-dimension.[16] Moreover, in the study conducted by Güçlü and Kurşun with the general surgery patients, it was found that the learning needs of the patients were high in the treatment and complications sub-dimension.[17] In the study of Çatal and Dicle on the patients who underwent surgery, they determined that the patients' need for maximum learning about drugs was lower.[10] Although most of the studies indicate a high need for learning in the treatment and complications sub-dimension, there are studies in the literature that identify the learning needs in other sub-dimensions. The need for learning in different sub-dimensions can be explained by the fact that different processes are performed, and the healing phase has a different process in every disease and surgery.

Providing information according to the needs of the patients helps them to overcome the surgical situation more effectively, and it reduces the physiological problems. A well-planned discharge-training can help to shorten the length of hospital stay, improve the quality of care at the hospital or at home, and increase the patient satisfaction.[15] In the current study, the learning needs of the patients, who underwent laparoscopic cholecystectomy, were determined. As suggested in many studies, identification of the needs for learning, and a training program, which was prepared according to the related needs of the patients smoothes the recovery process of the procedure.

The effects of the training, which was provided to the patients according to their learning needs, on the quality of life of the patients were investigated. It was determined that the mean scores of the experimental group, which was provided with the training, was higher in terms of general health, physical health, psychological health, social relations, environment, and total quality of life. Therefore, the quality of life of the patients who were in experimental group was higher than the control group. When the general health status of the experimental and the control groups was compared, it was found that the difference between the groups was statistically significant ($p<0.05$). The difference between the total score averages the quality of life in the experimental and the control groups was also statistically significant ($p<0.01$).

The fact that the training given to the patients increased the knowledge level of the patients, and thus, the patients' participation in the decisions taken during the treatment period enabled them to ensure compliance with the treatment. [17, 18] This may lead to an increase in the quality of life of the patients.

Studies on the subject reported that the informative and educative nursing approach has a positive effect on reducing the anxiety levels of patients with laparoscopic cholecystectomy, on improving their knowledge status and on the quality of life.[4-6] Zengin Çakır and Dal Yılmaz recommended that the patients with laparoscopic cholecystectomy perform a planned discharge, if they are provided with a training according to their individual characteristics and the learning needs.[19]

The positive developments and changes that occur in the patients who were given discharge training increase the patient's quality of life.[20, 21] Factors, such as getting rid of the mystery and stress of the patients who underwent surgery for different diseases, knowing what to do to accelerate the hospitalization and the healing processes, as well as the factors, such as the reduction of complications as a result of conscious behavior can explain the positive effect of education on the quality of life of the patients who underwent surgery.

The fact that patients with laparoscopic cholecystectomy will spend most of their recovery period at home necessitates good discharge training. These patients are discharged early from the clinic, when compared to other surgical groups. The nurses have a limited time for patient education.[6, 19] In such a short time, it is possible to provide such an important training, but with a well-planned training program, which is prepared according to the needs of the patients.

Limitations

The results cannot be generalized because this research was done at a single center. This is the limitation of the research.

Relevance to clinical practice

The present study is crucial in terms of determining the learning needs of the patients who underwent cholecystectomy surgery. It meets the aim of providing the education, given in line with the determined needs, as target-oriented, and serving maximum benefit for the patient. The current research emphasizes the necessity to prepare a training program for different patient groups that will undergo surgery, not according to relative ideas, but according to the patient needs.

Conclusion

Based on these findings, it can be said that a training program prepared according to the learning needs of patients increases the quality of life of the patients, who underwent laparoscopic cholecystectomy.

Ethics Committee Approval

The study was performed according to the Helsinki Declaration, and Hasan Kalyoncu University's Non-interventional Researches Ethics Committee (Date: 02.05.2017, Decree No.: 2017/05) approved the present study.

Informed Consent

The purpose and method of the study were explained to the participants by the researcher, and their written informed consent was obtained.

Author Contributions

Conception – Ç.A., Design – Ç.A., Supervision – Ç.A., Materials – Ç.A., M.E.B., Data Collection and/or Processing – M.E.B., Analysis and/or Interpretation – Ç.A., Literature review – Ç.A., M.E.B., Writer – M.E.B., Ç.A., Critical Review – Ç.A.

Conflict of Interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Statements

These research results have not previously been presented.

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