

The Effect of Hope Level of Surgical Oncology Patients with Urinary Tract Infection on Their Satisfaction with Life

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Abstract

Background: To determine the effect of hope level of surgical oncology patients with urinary tract infection on their satisfaction with life.

Methods: The study is of descriptive type. The universe of the study consisted of oncology patients who underwent surgery and had urinary tract infection in the Oncology and Infectious Diseases departments of Turgut Ozal Medical Center. The sample consisted of 81 patients determined by power analysis and selected from the universe by non-probability random sampling method. The study data were collected between May 2018 and September 2018 using the Patient Identification Form, the Beck Hopelessness Scale, and the Satisfaction with Life Scale. The data were evaluated using number, percentage, mean, standard deviation, regression, and anova tests.

Results: It was found that the hope level of surgical oncology patients alone had a 25.7% effect on satisfaction with life, hope level and gender had a 33.9% effect size, and hope level, gender, and marital status had a 38% effect size and were also effective on satisfaction with life scores. **Conclusion:** In the study, it was found that the hope level of surgical oncology patients had a major impact on their satisfaction with life. In this context, it is recommended that the awareness of nurses who care for surgical oncology patients about the concept of hope be increased and that nursing practices be planned to increase satisfaction with life by supporting hope in patients. It is also recommended to develop social support and coping strategies to increase the hope of surgical oncology patients to achieve better life satisfaction and clinical outcomes.

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Keywords: Surgery, oncology, hope, urinary infection, satisfaction with life

Introduction

Cancer is a chronic disease that begins slowly, continues without symptoms for a very long time, and creates hypersensitivity, fragility, helplessness, and fear of the unknown in the individual (1). Cancer can cause serious problems for patients, including the uncertainty of the disease, symptoms that occur after treatment, deterioration of close relationships, body image disorders, the disease making the patient defenseless, and fears about the recurrence of the disease(2).

Cancer treatment generally includes chemotherapy in addition to local treatments such as surgery and radiotherapy (3). In addition to many side effects due to the

development of phagocyte resistance in cellular and humoral immunity disorders caused by these treatments, the frequency of urinary system infections also increases(4). This causes a decrease in patients' quality of life and causes patients to be exposed to psychological stressors. This causes cancer patients to experience various psychological problems such as anger attacks, worry, fear, anxiety, depression, sadness, and hopelessness, and thus the patients' satisfaction with life decreases (5, 6). In the study conducted Arslan et al. on cancer patients receiving chemotherapy, it was determined that the patients' satisfaction with life was moderately affected (7).

Hope is one of the important factors increasing a person's motivation and prevents feelings of pessimism and

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Received: 15.02.2025 • **Revision:** 12.03.2025 • **Accepted:** 30.04.2025

DOI: 10.55994/ejcc.1640286

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Available online at <https://dergipark.org.tr/tr/pub/ejcc>

Cite this article as: Dolanbay N, Saritas S. The effect of hope level of surgical oncology patients with urinary tract infection on their satisfaction with life. Eurasian Journal of Critical Care. 2025;7(1): 1-6

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helplessness in case of illness (8). Hope is an important factor in oncology patients that helps them cope with the problems, uncertainty, and pain caused by the disease (9). Hopelessness is among the important issues for nursing care because it affects patients' compliance with treatment, motivation, coping with the disease and predisposes to depression (10). Nurses should support patients who have a problem of hopelessness to cope with this problem (11). In their study with terminal cancer patients, Dugleby et al. stated that the psychosocial support approach called the "Living with Hope Program" increased the hope level of the patients (12).

In this context, in this study, it was aimed to evaluate the effect of hope level on life satisfaction by using Beck Hopelessness Scale and Life Satisfaction Scale on oncology patients who had urinary tract infection and underwent surgery, and to ensure that patients have a better quality of life by developing social support and coping mechanisms. In addition, it is thought that this study will contribute to nursing research, can be used in nursing care and will give ideas to nurses.

Materials and Methods

Time and type of the study: This descriptive study was conducted between May 2018 and September 2018.

Universe and sample of the study: The universe of the study consisted of oncology patients who underwent surgical operations and had urinary tract infections in Turgut Ozal Medical Center Oncology and Infection services. After power analysis, the sample group consisted of 81 patients with an effect size of 0.7, a margin of error of 0.05 and a population representation power of 0.95. Data were collected from the population using the non-probability sampling method due to access difficulties and patient limitations. The inclusion criteria for the study included patients who had no communication problems, were 18 years of age or older, underwent surgery, and volunteered to participate in the study. The exclusion criteria from the study included patients who did not undergo surgery and those who did not speak Turkish.

Data collection tools: The study data were collected by the researchers using the Patient Identification Form, the Beck Hopelessness Scale, and the Life Satisfaction Scale.

Patient identification form: The form, prepared by the researchers in line with the literature, determines the sociodemographic and medical characteristics of oncology patients who undergo surgery. This form consists of 14 questions including age, gender, marital status, educational level, employment status, who the patient lives with, income level, whether the patient is aware of the disease, disease diagnosis and duration, what treatments he/she

has received, frequent urinary tract infection status, antibiotic use, and urethral catheter application status (13,14).

Beck hopelessness scale: This is a self-evaluation scale consisting of 20 items developed by Beck et al. (15). The scale consists of three important topics: "feelings about the future", "loss of motivation", and "expectations about the future". The questions are answered with yes or no and convey pessimistic expectations. 11 'yes' and 9 'no' options for the items receive 1 point. The total score is accepted as the hopelessness score (16). The first validity and reliability study in Türkiye was conducted by Seber et al. on psychiatric patients. The Cronbach's α value was found to be 0.86 (17). Durak and Palabıyıkoglu applied the scale to healthy individuals, those with psychological disorders, cancer patients, those with epilepsy, chronic renal failure, and 373 patients between the ages of 15 and 65. The Cronbach α value of the scale was found to be 0.85 (16). The Cronbach α value of this study was found to be 0.92.

The satisfaction with life scale: The scale was developed by Diener, Emmons, Larsen, and Griffin (18). The original form of the scale is a scale in the person assessment group consisting of one factor, five items and a Likert-type 7-point scale. The validity and reliability of the scale in Türkiye was made by teachers Dađlı and Baysal. The scale uses a 5-point Likert-type evaluation system ranging from "Strongly disagree (1)" to "Strongly agree (5)". An increase in the score indicates an increase in satisfaction with life. The Cronbach α value of the scale was determined as 0.88 and the test-retest reliability was determined as 0.97 (19). The Cronbach α value of this study was found to be 0.86.

Data collection: After all necessary permissions were obtained, the study data were collected by the researcher through face-to-face interviews considering the determined number of participants in the sample between May 2018 and September 2018. The data collection time was approximately 10-15 minutes.

Ethical Aspects of the Study: Before conducting the study, written permissions were obtained from the Malatya Clinical Research Ethics Committee (Decision No = 2018/10-21) and the İnönü University TÖTM Chief Physician's Office (Permission Document No: 68636013-770), to which the hospital where the study would be conducted is affiliated. The patients were informed about the study topic and informed that the information obtained from them would be protected. After written consent of the volunteers were taken, study data were collected.

Evaluation of data: While evaluating the study data, number, percentage, mean, and standard deviation tests were used to determine the descriptive characteristics of the patients. The Cronbach α reliability coefficient was used to determine the internal consistency of satisfaction

with life and hope level scales. The stepwise regression analysis was used to determine the relationship between the satisfaction with scale and the patients' socio-demographic characteristics and hope level variables. Age, gender, marital status, educational level, disease diagnosis, disease duration, income level, and hope level were used as independent variables. The satisfaction with life scale score was taken as the dependent variable. The linear regression step wise analysis was performed to determine the affecting variables. The linear and logistic regression analysis and anova test were used to determine the effect of independent variables on the dependent variable. The study results are at 95% confidence interval and the significance level is $p < 0.05$.

Findings

When the sociodemographic characteristics of the oncology patients who underwent surgery included in the study were examined, it was determined that 81.4% were 42 years old or older, 59.3% were male, 82.7% were married, 40.7% were primary school graduates, 79.0% were unemployed, 58.0% lived with extended families, 69.1% had

a medium income level, and 84.0% were aware of their disease. When the medical characteristics of the patients were examined, it was found that 35.7% had digestive system cancer, the disease duration of 71.6% was between 0 and 3 years, 44.4% received 2 or 3-phase treatment, 79.0% had frequent urinary tract infections, 96.3% used antibiotics during the disease, and 53.1% did not have a catheter before the urinary tract infection (Table 1).

According to the regression analysis of the prediction of satisfaction with life with hope level and socio-demographic characteristics, it was observed that the level of hope taken as a variable had an effect size of 25.7% alone, the level of hope and gender had an effect size of 33.9%, the level of hope, gender, and marital status had an effect size of 38.0% and also had an effect on satisfaction with life score. Additionally, it was determined that the independent variable, the hope level score, had the largest effect size on its own (Table 2).

Discussion

The weakening of the immune system in oncology patients causes infections to occur. The duration and inten-

Table 1. Descriptive characteristics of the patients (n=81)

| Descriptive characteristics | Number | % |
|-----------------------------|--------|------|
| Age | | |
| 18-29 | 4 | 5.0 |
| 30-41 | 11 | 13.6 |
| 42 and above | 66 | 81.4 |
| Gender | | |
| Female | 33 | 40.7 |
| Male | 48 | 59.3 |
| Marital status | | |
| Married | 67 | 82.7 |
| Single | 14 | 17.3 |
| Educational status | | |
| Illiterate | 18 | 22.2 |
| Literate | 12 | 14.8 |
| Primary school | 33 | 40.7 |
| High school | 11 | 13.6 |
| University | 7 | 8.8 |
| Employment status | | |
| Employed | 17 | 21.0 |
| Unemployed | 64 | 79.0 |
| People lived with | | |
| Nuclear family | 22 | 27.2 |
| Extended family | 47 | 58.0 |
| Other | 12 | 14.8 |
| Income level | | |
| Low | 23 | 28.4 |
| Middle | 56 | 68.1 |
| High | 2 | 2.5 |
| Awareness of the Disease | | |
| Yes | 68 | 84.0 |
| No | 13 | 16.0 |

(Continue)

Table 1. Descriptive characteristics of the patients (n=81) (Continue)

| Descriptive characteristics | Number | % |
|---|--------|------|
| Diagnosis | | |
| • Digestive System Cancers (Stomach, Esophagus, Duodenum, Colon, Rectum, Pancreas, Liver and Chongiocellular Carcinoma) | 29 | 35.7 |
| • Respiratory System Cancers (Lung, Nasopharynx and Bronchus) | 14 | 17.3 |
| • Reproductive System Cancers (Uterus, Prostate, Testis, Cervix, Ovary and Malignant Epithelial Tumor) | 14 | 17.3 |
| • Urinary System Cancers (Bladder Cancer) | 7 | 8.6 |
| • Musculoskeletal System Cancers (Osteosarcoma, Breast Ca) | 15 | 18.5 |
| • Neurological Cancers (Brain tumor) | 1 | 1.2 |
| • Endocrine System Cancers (Thyroid Ca) | 1 | 1.2 |
| Disease duration | | |
| 0-12 months | 29 | 35.8 |
| 1-3 years | 29 | 35.8 |
| 3-5 years | 12 | 14.8 |
| 5-7 years | 6 | 7.4 |
| 7 years and above | 5 | 6.2 |
| The treatments received | | |
| Chemotherapy | 32 | 39.5 |
| Radiotherapy | 6 | 7.4 |
| Surgical Treatment | 7 | 8.6 |
| Status of receiving 2 or 3- phase treatments | 36 | 44.4 |
| Frequent Urinary Tract Infections | | |
| Yes | 64 | 79.0 |
| No | 17 | 21.0 |
| Antibiotic Use | | |
| Yes | 78 | 96.3 |
| No | 3 | 3.7 |
| Catheter Application Status Before Urinary Tract Infection | | |
| Applied | 38 | 46.9 |
| Not applied | 43 | 53.1 |

sity of chemotherapy administered to these patients is directly related to the risk of infection (20). One of the most common infections in cancer patients is urinary tract infections. Various bacteria can cause urinary tract infections (14). Infections seen in oncology patients and the physical, psychological, and socioeconomic problems caused by the disease affect the quality of life of individuals and the patients' satisfaction with life decreases (9, 21). Oncology nurses have great responsibilities in identifying and eliminating these psychosocial problems experienced by oncology patients (22). There are few studies in the literature on surgical oncology patients with urinary tract infections (4, 20, 23). In this context, this study was conducted to examine the effect of hope level surgical oncology patients with urinary tract infection on their satisfaction with life and was discussed in line with the relevant literature.

According to the sociodemographic characteristics of the surgical oncology patients included in the study, it was determined that the patients were middle-aged and

older, the majority were male, the majority of the patients were married, the level of education was low, the majority were unemployed and lived with extended families, their income levels were moderate, and the patients were generally aware of their disease (Table 1).

When the medical characteristics of the patients were examined, it was understood that the majority had digestive system cancer, the duration of the disease was generally between 0-3 years, they usually received 2 or 3-phase treatments, the majority had frequent urinary tract infections and used antibiotics during the disease, and a catheter was not applied before the urinary tract infection (Table 1).

When the related literature was examined, in Yajima et al.'s study on cancer patients, it was found that 14% of the patients had urinary tract infections (23). In the study conducted by Shrestha et al. with cancer patients, bacterial growth was observed in the urine culture of 24% of the patients (13). These studies showed that cancer patients were prone to urinary tract infections.

Table 2. Explaining the prediction of satisfaction with life with hope level and socio-demographic characteristics using regression analysis

| Model | β_1 | SE | β_2 | t Test | p1 Value | F Test | p2 Value | R2 | Effect Size |
|-----------------|-----------|-------|-----------|--------|----------|--------|--------------------|--------------------|-------------|
| -Constant | 25.188 | 1.388 | -0.507 | 18.153 | 0.000 | 27.391 | 0.000 ^a | 0.507 ^a | 0.257 |
| -Hope Level | -0.593 | 0.113 | -5.423 | -5.423 | 0.000 | | | | |
| -Constant | 18.568 | 2.502 | -0.492 | 7.423 | 0.000 | 20.046 | 0.000 ^b | 0.583 ^b | 0.339 |
| -Hope Level | -0.574 | 0.108 | 0.287 | -5.334 | 0.000 | | | | |
| -Gender | 4.032 | 1.295 | | 3.113 | 0.003 | | | | |
| -Constant | 22.977 | 3.141 | -0.514 | 7.314 | 0.000 | 15.699 | 0.000 ^c | 0.616 ^c | 0.380 |
| -Hope Level | -0.600 | 0.106 | 0.295 | -5.679 | 0.000 | | | | |
| -Gender | 4.148 | 1.265 | -0.201 | 3.279 | 0.002 | | | | |
| -Marital Status | -3.680 | 1.651 | | -2.229 | 0.029 | | | | |

β_1 ; Unstandardized Regression Coefficient, SE; Standard Error, β_2 ; Standardized Regression Coefficients, t-test for the significance of the coefficients, p1 <0.05, F test for the significance of the model, p2 <0.05 and R2 Explanatory coefficient

- aPredictors: (Constant), Hope Level
- bPredictors: (Constant), Hope Level, gender
- cPredictors: (Constant), Hope Level, gender, marital status

According to the results obtained from our study, it was determined that the hope level of surgical oncology patients with urinary system infections had a great impact on their satisfaction with life (Table 2). It should be noted that hope has a significant impact on life satisfaction, but it is also influenced by many sociodemographic factors.

As a result of the literature review, some studies conducted with oncology patients were found. In the study conducted by Temizsoy, it was determined that as hopelessness increased in patients, their satisfaction with life decreased²¹. In the study conducted by Rustoen et al. a significant link was found between hope and satisfaction with life (24). In the study conducted by Wnuk et al., a relationship was found between disease duration and level of hope and satisfaction with life (25). These studies support our study.

In conclusion, it was determined that the hope levels of surgical oncology patients have a great impact on their satisfaction with life.

Based on these results, the following are recommended:

- It will guide nurses caring for surgical oncology patients to develop a new approach to increase the level of hope and support life satisfaction of patients, and
- It is recommended to ensure that the quality of care provided to patients is improved.
- Long-term follow-up studies with larger sample sizes that examine how other factors such as social support, coping strategies or depression affect this relationship may provide a broader perspective on how changes in levels of hope positively/negatively affect life satisfaction.

Limitations of the Study

The limitations of the study are that the patient group was limited to the patients hospitalized in the İnönü University Turgut Ozal Medical Center Oncology and Infectious Diseases wards and the sample was selected by the non-probability random sampling method. In addition, pain levels, fatigue and social support may also be considered as limitations as they may affect life satisfaction.

Author Contribution: Idea- ND, SS; Design – ND, SS; Supervision- SS; References – ND, SS; Materials – ND, SS; Data Collection and/or Processing – ND, SS; Analysis and/or Commentary – ND, SS; Literature Review – ND, SS; Written by – ND, SS; Critical Review – SS.

Financial Support: No financial support was received for this study.

Conflict of Interest: There is no conflict of interest in this study.

Acknowledgements: We would like to thank all oncology patients who participated and supported the study.

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