

# The Evaluation of Nursing Care Satisfaction and Patient Learning Needs in day Case Surgery

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**Abstract** Patients in surgical service units have higher expectations for treatment and care. The aims of this study were to determine nursing care satisfaction and information requirements at the time of discharge of patients from a day surgery unit and to assess the effects of demographics. The study was conducted on 291 patients undergoing day case surgery. Patient perception scale for nursing care (PPSN) and the patient learning needs scale (PLNS) were used and total and sub-dimension points averages were calculated and then compared with demographic data using the Kruskal-Wallis test. The results were evaluated at the  $p < 0.05$  significance level with 95 % confidence intervals. Of the patients, 58.8 % ( $n = 171$ ) were females and the average age was  $49.5 \pm 15.3$  years. PPSN and PLNS total point averages were  $68.16 \pm 10.17$  and  $178.53 \pm 27.59$ , respectively. A significant difference was determined in PPSN total point average with regard to previous hospitalisations; the PPSN total point average was higher for patients with prior hospitalisations ( $p < 0.001$ ). Significant differences were determined between PLNS total point average and age group, marital status, receiving discharge training, and education level ( $p = 0.008, 0.006, < 0.001, \text{ and } 0.015$ , respectively). Differences were found in the PLNS sub-dimension point averages between groups, especially with regard to age group and educational level. We showed that patient satisfaction and patient information requirements could change according to demographic features of the patients at a day case surgery unit. In this respect, healthcare

providers should offer healthcare services by evaluating the personal characteristics of patients because this is important for their satisfaction.

**Keywords** Nursing care · Satisfaction · Day case surgery · Patient learning

## Introduction

A healthy life is obviously of considerable value and great importance to most people. In case of illness, when health is affected, people prefer healthcare organisations that can offer the latest treatment with top-quality care. The quality of health services provided by healthcare organisations should be evaluated in terms of patient satisfaction. Although many factors, such as patient expectations, healthcare staff, and physical conditions, play roles in patient satisfaction, nurses who administer treatments and take care of patients are typically the major factor behind patient satisfaction [1–4]. Eriksen described patient satisfaction as a subjective evaluation arising from the interaction between patient care expectation and nurse character/behaviour perception [5]. The evaluation of patient satisfaction according to nursing care is determined through criteria such as nurses being cheerful with patients and the staff, giving explanatory answers to questions, being accessible in times of need, and responding to patient expectations.

In addition to offering quality healthcare service during illnesses, training patients regarding their illnesses, treatments, and rehabilitation is one of the most important duties of the healthcare providers. There are reports that providing needed information to patients, especially at the time of discharge, eased their transition from hospital to home and decreased the care and treatment costs too [6, 7]. Patients have concerns about their treatments and rehabilitation, especially following

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surgical procedures. Stresses and uncertainties created by surgical interventions can be decreased by suitable training that meets patient expectations, and their re-adaptation to an active life in the postsurgical period can be facilitated [8, 9].

In this study, the aim was to analyse patient satisfaction and training requirements at the time of discharge for patients at a day surgery unit with the help of scales and making comparisons with their demographic data.

## Methods

### Target Population Sample

This was a descriptive research study, conducted at Baskent University Hospital between November 2013 and March 2014 in hospitalised patients. It was intended to include all the patients who were hospitalised in the defined service unit between the specified dates in the sample group. The study was carried out in 291 patients after excluding those who declined to participate, those under the age of 18 or over 85 years, and those with communication problems, such as a language barrier. Data were collected by face-to-face interviews.

### Demographic Data Form

On a standardised form, we recorded age, gender, professional status, marital status, educational level, family structure, previous hospitalisations, state of chronic disease(s), and smoking status of the patients.

### Patient Perception Scale for Nursing Care

The validity and reliability analyses of this test, which measures satisfaction with regard to nursing, and was used for the first time by Dozier et al. in 2001, were carried out by Coban and Kasikci in Turkey in 2007 [10, 11]. The total point scores are evaluated out of 100 in the test, which consists of 15 questions with Likert-type scale answers. A high point score indicates high satisfaction.

### Patient Learning Needs Scale

This scale was developed by Bubella et al. in 1990. The scale that assesses the learning needs of the patients at the time of discharge was adapted to Turkish by Çatal and Dicle in 2007 [7, 12]. In total, 50 items and seven sub-dimensions are present in the patient learning needs scale (PLNS). The scale items are evaluated as 1=not important, 2=little importance, 3=moderate, 4=very important, or 5=highly important. The total points and each sub-dimension were evaluated separately. The

highest and lowest scores of the scale are 250 and 50 points, respectively.

### Statistical Analysis

In addition to descriptive statistical methods, the Kolmogorov-Smirnov test was used to assess the normal distribution of the study data. For the comparison of quantitative data in the two groups, the Mann-Whitney *U* test was used. In comparisons of quantitative data for more than two groups, the Kruskal-Wallis test was used in the comparison among the groups and the Mann-Whitney *U* test was used to assess detected differences. Results were evaluated with 95 % confidence intervals. *p*-values <0.05 were considered to indicate statistical significance.

## Findings

The average age of the 291 patients was 49.5±15.3 years and 58.8 % of them were females. Demographic data of the patients are provided in Table 1. The patient perception scale for nursing care (PPSN) total average was 68.16±10.17. The PLNS total average was 178.53±27.59, and the sub-dimension averages are provided in Table 2.

No statistically significant difference was found in the comparison of the PPSN total point averages with regard to gender. Similarly, no significant difference was seen in PLNS total point averages with regard to gender. In comparisons of PLNS sub-dimensions, a significant difference was observed between the gender groups with regard to life activities, society and follow-up, treatment and complications, life quality, and skincare. A significant difference was found between the gender groups with regards to medications (higher for women, *p*=0.002). A significant difference was also found in the case-related feelings sub-dimension (higher for males, *p*=0.003). *p* values with point averages of the sub-dimensions where significant differences were found are presented in Table 3.

No statistically significant difference was found in the comparison of PPSN total points averages among the age groups. Significant differences were determined among the age groups with regards to PLNS total point averages; the highest point average was in the 51-60-years age group (*p*=0.008). Statistically significant differences were found among the age groups with regard to all PLNS sub-dimensions. Regarding age groups, PLNS total point averages, sub-dimension point distributions, and *p* values are presented in Table 3.

No statistically significant difference was seen between the single and married groups in the comparison of PPSN total point averages by marital status. A statistically significant difference was observed between the groups with regards to PLNS total point averages (higher in the married group; *p*=0.006), and statistically significant differences were

**Table 1** Demographic characteristics of the patients

Variables	Patients ( <i>n</i> =291)	Percentage (%)
<b>Gender</b>		
Female	171	58.8
Male	120	41.2
<b>Age (years)</b>		
≤30	45	15.5
31–40	48	16.5
41–50	60	20.6
51–60	54	18.6
≥61	84	28.9
<b>Marital status</b>		
Married	174	59.8
Bachelor	117	40.2
<b>Education level</b>		
Literate	42	14.4
Primary education	45	15.5
Secondary education	80	27.5
Higher education	115	39.5
Postgraduate	9	3.1
<b>Family type</b>		
Elementary family	240	82.5
Extended family	51	17.5
<b>Previous hospitalisation</b>		
No	138	47.4
Yes	153	52.6
<b>Chronic disease</b>		
No	159	54.6
Yes	132	45.4
<b>Smoking</b>		
No	201	69.1
Yes	90	30.9

**Table 2** Mean scores of the scales and sub-dimensions

Variables	Number	Mean±SD (min–max)
Total scale for patient training needs	291	178.53±27.59 (106–248)
Scale for nursing care perception of patients	291	68.16±10.17 (30–75)
Medications	291	30.84±4.47 (19–40)
Life activities	291	31.75±5.59 (17–44)
Society and follow-up	291	20.04±3.70 (12–30)
Case-related feelings	291	14.69±4.96 (6–25)
Treatment and complications	291	36.39±4.89 (21–45)
Life quality	291	28.33±5.54 (14–39)
Skincare	291	16.48±3.85 (10–25)

SD standard deviation, *Min* minimum, *Max* maximum

detected in the sub-dimensions. No statistically significant difference was observed between the groups with regard to medications, life activities, or skincare. A significant difference was seen in the comparison of marital status with regard to society and follow-up, case-related feelings, treatment and complications, and life quality (higher in the married group). PLNS sub-dimension point averages that showed significant differences with regard to marital status and the *p* values are presented in Table 4.

No statistically significant difference was seen between PPSN total points and educational level. With regard to PLNS total point averages, a significant difference was determined; the highest scores were in those who received postgraduate education ( $p<0.001$ ). In evaluating the PLNS sub-dimensions, no statistically significant difference was seen between the sub-dimensions of skincare and case-related feelings and education level. A statistically significant difference was found between education level and point averages for the sub-dimensions of medications, life activities, society and follow-up, and treatment and complications (Table 2). In all sub-dimensions, when significant differences were determined, the highest score was seen in the postgraduate education level group. Similarly, in all the sub-dimensions with significant difference, the lowest point average was detected in the literate group.

There was no significant difference between the patients who received training before discharge and those who did not, with regard to the PPSN point average. A significant difference was found in the PLNS total point average between the groups according to whether they received training or not; the point averages of the patients who received training were higher ( $p=0.015$ ). When the PLNS sub-dimensions were compared with regard to receiving training before discharge, no significant difference was found between the groups in terms of society and follow-up, case-related feelings, and life quality and skincare. A statistically significant difference was determined between the groups according to the state of receiving training before discharge in the sub-dimensions of medications, life activities, and treatment and complications. The point averages of the patients who received training before discharge were higher in all sub-dimensions where significant differences were identified (Table 5).

A statistically significant difference was determined in the comparison of patients with previous hospitalisations and their PPSN point averages (higher in patients with previous hospitalisations;  $p<0.001$ ). In comparing PLNS total point averages, no significant difference was observed. Differing results were seen in the comparison of the PLNS sub-dimension point averages with regard to previous hospitalisations. Point averages for medications, life activities, society and follow-up, and case-related

**Table 3** Comparison of groups with regards to gender and age distribution

Variables		Mean±SD	KW	<i>p</i>
Gender				
Medications	Female ( <i>n</i> =171)	31.57±4.59	8037.00	0.002
	Male ( <i>n</i> =120)	29.80±4.09		
Case-related feelings	Female ( <i>n</i> =171)	14.00±5.42	8158.50	0.003
	Male ( <i>n</i> =120)	15.67±4.04		
Distribution by age groups				
Medications	≤30 years ( <i>n</i> =45)	29.80±3.71	19.48	0.001
	31–40 years ( <i>n</i> =48)	31.37±3.17		
	41–50 years ( <i>n</i> =60)	32.13±4.59		
	51–60 years ( <i>n</i> =54)	32.24±3.50		
	≥60 years ( <i>n</i> =84)	29.28±5.34		
Life activities	≤30 years ( <i>n</i> =45)	29.46±5.23	12.17	0.016
	31–40 years ( <i>n</i> =48)	31.81±5.19		
	41–50 years ( <i>n</i> =60)	32.23±4.42		
	51–60 years ( <i>n</i> =54)	33.18±5.61		
	≥60 years ( <i>n</i> =84)	31.67±6.42		
Society and follow-up	≤30 years ( <i>n</i> =45)	19.40±4.25	18.27	0.001
	31–40 years ( <i>n</i> =48)	19.56±3.29		
	41–50 years ( <i>n</i> =60)	19.10±2.40		
	51–60 years ( <i>n</i> =54)	21.55±3.95		
	≥60 years ( <i>n</i> =84)	20.35±3.93		
Case-related feelings	≤30 years ( <i>n</i> =45)	14.06±4.86	37.30	<0.001
	31–40 years ( <i>n</i> =48)	13.75±5.33		
	41–50 years ( <i>n</i> =60)	11.98±4.03		
	51–60 years ( <i>n</i> =54)	16.57±4.83		
	≥60 years ( <i>n</i> =84)	16.28±4.49		
Treatment and complications	≤30 years ( <i>n</i> =45)	37.33±5.68	23.98	0.000
	31–40 years ( <i>n</i> =48)	38.06±3.43		
	41–50 years ( <i>n</i> =60)	37.68±3.86		
	51–60 years ( <i>n</i> =54)	36.29±4.29		
	≥60 years ( <i>n</i> =84)	34.07±5.34		
Life quality	≤30 years ( <i>n</i> =45)	28.20±5.21	19,136	0.001
	31–40 years ( <i>n</i> =48)	28.62±5.32		
	41–50 years ( <i>n</i> =60)	27.03±5.13		
	51–60 years ( <i>n</i> =54)	30.63±4.99		
	≥60 years ( <i>n</i> =84)	27.67±6.08		
Skincare	≤30 years ( <i>n</i> =45)	17.06±4.33	27.64	<0.001
	31–40 years ( <i>n</i> =48)	15.06±4.39		
	41–50 years ( <i>n</i> =60)	15.43±3.51		
	51–60 years ( <i>n</i> =54)	18.68±3.49		
	≥60 years ( <i>n</i> =84)	16.32±3.00		
Total scale for patient learning needs	≤30 years ( <i>n</i> =45)	175.33±26.54	13.91	0.008
	31–40 years ( <i>n</i> =48)	178.25±24.97		
	41–50 years ( <i>n</i> =60)	175.60±21.22		
	51–60 years ( <i>n</i> =54)	189.16±27.38		
	≥60 years ( <i>n</i> =84)	175.67±32.25		

Significance level:  $p < 0.05$ 

SD standard deviation, KW Kruskal-Wallis

**Table 4** Parameters that show statistically significant difference according to marital status and education level

Variables		Mean±SD	KW	<i>p</i>	
Marital status	Society and follow-up	Bachelor ( <i>n</i> =117)	18.79±3.82	6790.50	<0.001
		Married ( <i>n</i> =174)	20.87±3.38		
	Case-related feelings	Bachelor ( <i>n</i> =117)	13.59±5.07	8194.50	0.005
		Married ( <i>n</i> =174)	15.43±4.76		
	Treatment and complications	Bachelor ( <i>n</i> =117)	35.56±5.58	8703.00	0.035
		Married ( <i>n</i> =174)	36.94±4.28		
Life quality	Bachelor ( <i>n</i> =117)	27.20±5.82	8464.50	0.014	
	Married ( <i>n</i> =174)	29.08±5.22			
Total scale for patient learning needs	Bachelor ( <i>n</i> =117)	172.35±30.36	8244.00	0.006	
	Married ( <i>n</i> =174)	182.69±24.79			
Education level	Medications	Literate ( <i>n</i> =42)	27.57±5.10	39.87	<0.001
		Primary education ( <i>n</i> =45)	31.40±2.63		
		Secondary education ( <i>n</i> =80)	29.77±4.29		
		Higher education ( <i>n</i> =115)	32.16±4.14		
		Postgraduate ( <i>n</i> =9)	36.00±2.29		
	Life activities	Literate ( <i>n</i> =42)	28.57±5.35	13.24	0.010
		Primary education ( <i>n</i> =45)	33.06±4.57		
		Secondary education ( <i>n</i> =80)	30.27±5.58		
		Higher education ( <i>n</i> =115)	32.88±5.27		
		Postgraduate ( <i>n</i> =9)	38.66±3.50		
	Treatment and complications	Literate ( <i>n</i> =42)	32.42±4.39	45.37	<0.001
		Primary education ( <i>n</i> =45)	36.33±2.46		
		Secondary education ( <i>n</i> =80)	36.20±6.16		
		Higher education ( <i>n</i> =115)	37.55±3.91		
		Postgraduate ( <i>n</i> =9)	42.00±1.50		
	Life quality	Literate ( <i>n</i> =42)	26.14±5.60	13.68	0.008
		Primary education ( <i>n</i> =45)	28.80±4.43		
		Secondary education ( <i>n</i> =80)	28.22±5.01		
		Higher education ( <i>n</i> =115)	28.52±5.97		
		Postgraduate ( <i>n</i> =9)	34.66±3.90		
Total scale for patient learning needs	Literate ( <i>n</i> =42)	165.28±29.11	20.42	<0.001	
	Primary education ( <i>n</i> =45)	182.53±20.88			
	Secondary education ( <i>n</i> =80)	173.48±27.02			
	Higher education ( <i>n</i> =115)	182.99±27.37			
	Postgraduate ( <i>n</i> =9)	208.33±20.22			

Significance level: *p*<0.05*SD* standard deviation, *KW* Kruskal-Wallis

feelings showed no significant differences between the groups. Statistically significant differences were seen for treatment and complications, life quality, and skincare. The point averages were higher for patients with previous hospitalisations in the sub-dimension of life activity and skincare, and higher in the sub-dimension of treatment and complications for patients without prior hospitalisation. PLNS sub-dimension points where a significant difference was found with PPSN point averages and *p* values are presented in Table 5.

## Discussion

Patient satisfaction is based on whether healthcare providers meet the expectations of the patient for treatment and care [4, 13]. In our study, the patient satisfaction in a day case surgery unit was evaluated using PPSN; the point average was 68.16±10.17. In a study by Sise of 345 patients including the entire services of a tertiary healthcare organisation, the average satisfaction was 86.4±16.6, and in a study by İçeroğlu and Karabulutlu in 280 patients in the urology service of a tertiary

**Table 5** Parameters that show statistically significant difference with regards to receiving discharge training and previous need for hospitalisation

Variables		Mean±SD	KW	<i>p</i>
According to the state of receiving discharge training				
Medications	No ( <i>n</i> =39)	28.38±4.08	3199.50	<0.001
	Yes ( <i>n</i> =252)	31.22±4.42		
Life activities	No ( <i>n</i> =39)	30.07±4.92	3870.00	0.032
	Yes ( <i>n</i> =252)	32.01±5.65		
Treatment and complications	No ( <i>n</i> =39)	33.53±3.19	2511.00	<0.001
	Yes ( <i>n</i> =252)	36.83±4.96		
Total scale for patient learning needs	No ( <i>n</i> =39)	171.15±23.18	3721.50	0.015
	Yes ( <i>n</i> =252)	179.67±28.07		
Previous need for hospitalisation				
Total scale for nursing care perception	No ( <i>n</i> =138)	67.63±9.22	8059.50	<0.001
	Yes ( <i>n</i> =153)	68.64±10.97		
Treatment and complications	No ( <i>n</i> =138)	36.80±4.75	9135.00	0.046
	Yes ( <i>n</i> =153)	36.02±4.99		
Life quality	No ( <i>n</i> =138)	27.73±5.38	8860.50	0.017
	Yes ( <i>n</i> =153)	28.86±5.64		
Skincare	No ( <i>n</i> =138)	15.60±4.15	7767.00	<0.001
	Yes ( <i>n</i> =153)	17.27±3.41		

Significance level:  $p < 0.05$

SD standard deviation, KW Kruskal-Wallis

healthcare organisation, the average satisfaction was  $69.44 \pm 7.16$  [14, 15]. Patient satisfaction with surgical services may be lower than other services because inpatients at surgical services may have higher expectations for care due to having more anxiety during the hospitalisation period. Generally, in our study, which included patients at a day case surgery unit, patient satisfaction results were consistent with other reports in our country.

When previous reports are analysed with regard to comparisons of patient satisfaction and age groups, the patient satisfaction is higher in the older groups, even if the difference was not significant [14–16]. In these publications, it was noted that older groups likely compared current healthcare services with the past and, accordingly, older patients had higher patient satisfaction [14, 16, 17]. In our study, while there was not a statistically significant difference, patient satisfaction was actually higher in the younger groups, which is not in agreement with previous reports. This may have been due to the patients being younger, having fewer chronic diseases, surgical hospitalisations, multiple drug treatments, and care needs compared with the older patients, and thus having lower healthcare expectations.

Differing results have been reported by studies of nursing care perceptions and gender. Although patient satisfaction was higher for females in the studies of Iceroglu, Akin, and Erdogan, no gender difference was found in the studies by Sise and Uzun [14, 15, 17, 18]. We also found no difference with regard to gender in our study.

In studies comparing marital status and patient satisfaction, while PPSN scores were higher for married patients in the study of Sise and O'Connellun, no statistically significant difference was reported by Dolek, Han, Iceroglu, and Karabulutlu, nor was it in our study [14, 15, 19–21]. In the previous reports, when a significant difference was determined, it was hypothesised that married patients had more social support and thus lower expectations, so they had higher satisfaction. In our study, the satisfaction scores of married patients were higher than those of single subjects.

The relationship between educational level and nursing care perception has been analysed previously; satisfaction generally decreased with an increase in educational level [14, 16, 22]. In our study, while there was no significant difference with regard to education group, as also reported by Iceroglu, the point average for those with a postgraduate education was lower [15]. This was likely associated with an increase in expectations, based on knowledge of disease and treatment approaches being more extensive as educational level increases.

It has been reported that there was no significant difference when comparing patients with previous hospitalisations with regard to nursing care [14, 15]. In the evaluation by Sise, a significant difference was determined with regard to prior hospitalisation time, but not the state of previous hospitalisations. The satisfaction level was lowest for patients with a prior hospitalisation time of at least 1 month. It was considered that such extended hospitalisation time decreased patient tolerance and increased expectations of nursing care

[14]. In our study, a significant difference was found with regard to the state of previous hospitalisation; the satisfaction averages of the patients with a hospitalisation history were higher. This was associated with a decrease in dependency on nursing care for the patients, as a result of their increased experience of hospital procedures from their previous hospitalisations.

Providing patients with necessary training at the time of discharge is one of the most important duties of healthcare providers. PLNS scales include the information needs of the patients at the time of discharge. In our study, patients at a day case surgery unit were evaluated with regards to PLNS point averages at the time of discharge; the total point average was  $178.53 \pm 27.59$ . The point average was  $106.2 \pm 48.6$  in a study by Jacop in abdominal laparoscopy patients [23]. While Orgun et al. found a point average of  $201.73 \pm 25.16$ , Özge et al. reported a point average of  $196.99 \pm 36.14$  in studies carried out in surgical clinics in our country (2425). Consistent with previous reports, in our study, the subjects about which the patients most wanted information were the sub-dimensions of treatment and complications, life activities, and medications [24, 25].

In evaluations with regard to age groups and training needs, significant differences were identified in PLNS total point scores and in the sub-dimensions. The average was highest in the 51–60-year age group in total points and all sub-dimensions, with the exception of treatment and complications. The scores were highest in the 41–50-year age group for the treatment and complications sub-dimension. Thus, the information needs in the middle age group were higher than those in the other age groups. Previous studies in our country have reported no significant difference with regard to age group [26, 27].

In our study, one of the most remarkable differences with regard to training needs was that with regard to education level. Significant differences were found in the total points and in all sub-dimensions, with the exception of skincare and care-related feelings. Different results regarding this issue have been reported. While significant differences were not found between education level and patient learning needs in some studies, in others, it was reported that learning needs decreased as education level increased [27–29]. In our study, in the sub-dimensions in which significant differences were determined, the learning needs were higher in patients with postgraduate education. Therefore, the patients' requests for information with regard to their treatment and rehabilitation increased with increasing education level.

When receipt of discharge training and learning needs were compared, a significant difference was determined in the sub-dimensions of medications, life activities, and treatment and complications, as reflected in the PLNS total point score. In all groups, the point averages were higher for patients who had received discharge training previously, likely because the patients who had received training increased their learning needs

due to the positive returns of the training following the prior discharge. In one report on 40 patients who underwent open-heart surgery, Cupples reported that the information needs of the patients who received planned training were higher than in those who did not [30].

In our study, nursing care satisfaction and patient training needs were evaluated for patients at a day case surgery unit and were compared with demographic data. Patient satisfaction and patient training needs varied with patient characteristics. In this respect, it is important that healthcare providers provide appropriate healthcare services by evaluating the personal needs of the patients.

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