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Research Article

Determination of Learning Needs of Patients Undergoing Total Knee Replacement Surgery at Discharge

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Introduction: This study was planned to determine the learning needs of patients who underwent total knee replacement (TKR) surgery at discharge.

Materials and Methods: The research sample consisted of 60 patients aged 18 and over who had undergone total knee replacement surgery in the orthopedic service of a Training and Research Hospital and agreed to participate in the study. Patients were interviewed in the postoperative period using the Personal Data Form and the Patient Learning Needs Scale (PLNS).

Results: The average age of the patients who underwent surgery was 65.03±6.88 and the average BMI was 29.58±3.52. While the average length of hospital stay (days) was 5.30±1.69, 78.3% were women and 88.3% underwent spinal anesthesia. All patients and caregivers received discharge training on home care. The patient PLNS score is 168.90±32.34.It was observed that the highest importance level score among the patients' scale subgroups was treatment and complications.

Conclusions: The learning needs of the patients were found to be moderately important. It was determined that the importance levels of patient education needs were higher for those with spinal anesthesia, those with primary school education or higher, those who were single, and those whose income was less than their expenses. It was observed that the importance levels of the feelings about the situation and treatment complications sub-dimensions of the PLNS were higher in those who had not had surgery before than in those who had surgery.

Keywords: Care, Orthopedic nursing, Post-surgical, Total knee replacement

1. INTRODUCTION

Total knee arthroplasty (TKA) is a surgical intervention performed in patients who have difficulty in fulfilling the biomechanical activity of the knee and complain of pain that decreases the quality of life, mostly in female patients over 60 years of age. These patients mostly present to health centers with complaints of osteoarthritis.[1] This intervention, which has indications such as overweight, osteoarthritis, rheumatoid arthritis, gonarthrosis, advanced age, osteoporosis, pain in the knee and decreases the quality of life, is an effective and elective surgery that is successful with the right patient selection.[1-3] Patients are very concerned about the process and adaptation in the postoperative period, as they do not have enough information about the surgery and adaptation to the implant in the following time period. As a requirement of holistic care, patients should be supported in all aspects and their information needs about the postoperative process and adaptation should be identified and met. [4,5] Based on this, the study was planned to determine the learning needs at discharge in patients who underwent TKR surgery.

2. MATERIALS AND METHODS

The study population consisted of patients aged 18 years and over who underwent total knee replacement

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surgery between 01.08.2022-01.04.2024 in the Orthopedics Clinic of a Training and Research Hospital, and the sample consisted of 60 patients (47 females and 13 males) who agreed to participate in the study and met the research criteria. The number of patients planned to be included in the study was found to be at least 60 patients in case of low effect size (0.31), α: 0.05 and power: 80% by selecting t test for repeated measure comparison in G-Power 3.1.9.4 program.

Data Collection Tools

While collecting the data, 'Personal Data Form' and 'Patient Learning Needs Scale', which were created by the researchers by reviewing the relevant literature, were used.

Personal Data Form

The Personal Data Form consists of questions such as age, gender, education level, height-weight, marital status, employment status, any chronic disease status, presence of any allergy, previous surgery status, discharge training status, having a companion and the duration of the companion's stay in line with the relevant literature.[1-3]

Patient Learning Needs Scale (PLNS)

The Patient Learning Needs Scale (PLNS) was developed by Bubela et al. in 1990 for the first time to address the information needs of surgical patients based on the suggestions made by Lazarus and Folkman in 1987 for individuals to adapt to and cope with the new situation and to meet their information needs.[6] The validity and reliability of the scale in Turkey was performed by Çatal and Dicle (2008) and the Cronbach's alpha value was found to be 0.95.[7] In this study, the Cronbach's alpha value is 0.973. The HOSI is a scale consisting of a total of 7 sub-scales including activities of daily living (medications, activities of daily living, community and follow-up, feelings about the condition, treatment and complications, quality of life, skin care) and 50 items graded with 5 Likert-type scoring that determine the learning needs of individuals. The scale is evaluated on each subscale and the total scale score. The minimum score is 50 and the maximum score is 250 (Table 1). High scores indicate the level of importance of learning needs. By dividing the total scale and all subscales by the number of questions, the scale and subscale scores are interpreted between 1 and 5 according to the level of importance; "1= not important", "2= somewhat important", "3= neither less nor more important", "4= very important", "5= extremely important".[7]

Data Evaluation

Data were transferred to IBM SPSS Statistics 21 program and frequency distribution was used for categorical variables and descriptive statistics were used for numerical variables. The difference between two groups was analyzed by independent sample t test and the difference between more than two groups was analyzed by one-way analysis of variance (One Way ANOVA). As a result of ANOVA, Levene's test was performed for homogeneity of variance, and then the group or groups from which the difference originated were checked by "multiple comparison test" (Tukey). Tukey test was used to examine the difference between groups in variables that provided variance homogeneity. Pearson correlation analysis was used to examine the relationship between numerical measurements and multiple linear regression analysis was used to examine the factors affecting the scale score, and Cronbach alpha value was used for scale reliability. For significance, $p<0.05$ was accepted.

3. RESULTS

The mean age of the patients was 65.03±6.88 years, 78.3% were female and 21.7% were male. The mean Body Mass Index was 29.58±3.52, the clinical diagnosis was gonarthrosis and the mean duration of hospitalization (days) was 5.30±1.69. Spinal anesthesia was performed in 88.3% of the patients. 68.3% were primary school graduates or higher, 56.7% were single, 80% had income equal to expenses, 46.7% lived with their spouses, 68.3% lived in the district, 46.7% lived on the 1st floor, 16.7% had an elevator in their house,

68.3% had an alafranga toilet inside the house, and 80% had very good financial and moral support from family and environment (Table 2).

While 55% of the patients had chronic diseases, 69.7% of those with chronic diseases had hypertension. 55% of the patients were on continuous medication, 1.7% had allergy (Alfacillin allergy). 81.7% of the patients were non-smokers, while no patient used alcohol. Of those who smoked, 8.3% used 1 pack/day, 48.3% had a history of a different surgery. 98.3% had a permanent companion, 50% were cared for by a child, 61.7% had been hospitalized before. All patients and caregivers had received discharge training for home care (Table 3).

Patient learning needs scale score was 168.90±32.34. The importance level score of the Patient Learning Needs Scale was 3.37. When the importance levels of the subgroups were analyzed, it was found that the highest importance level score belonged to the sub-dimension of treatment and complications (3.65) (very important). This was followed by medications (3.49) (very important), life activities and skin care (3.40), quality of life (3.38), community and follow-up (3.26), and feelings about the condition (2.66) (neither more nor less important), respectively (Table 4).

There was no significant difference between gender and total scale and sub-dimensions of patient learning needs (p=0.563), but there was a statistically significant difference between type of anesthesia and feelings about the condition (p=0.001); between educational status and treatment and complications (p=0.048); between income status and quality of life (p=0.037) skin care (p=0.001) and total scale (p=0.043); and between marital status and patient learning needs scale and sub-dimension scores (p=0.008). Accordingly, those who had spinal anesthesia, those who had primary school or higher education compared to illiterate, those who were single and those whose income was less than their expenses had higher levels of importance of patient learning needs (Table 5).

While there was no statistically significant difference between the place of residence, floor of the house, financial and moral support from family and environment in terms of patient learning needs scale and sub-dimension scores; patient learning needs scale and medications, community and follow-up, emotions related to the situation, quality of life sub-dimension scores between the people living together; There is a statistically significant difference between the presence of an elevator at home in terms of patient learning needs scale and medications, community and follow-up, emotions related to the situation, and skin care sub-dimension scores; and between the presence of a toilet in the place of residence in terms of patient learning needs scale and medications, community and follow-up, emotions related to the situation, and skin care sub-dimension scores (p=0.028). Accordingly, it was found that patients living alone had higher levels of significance in the total patient learning needs scale and in the sub-dimensions of medications, community and follow-up, feelings about the situation, and quality of life. It was found that patients who did not have an elevator at home had higher levels of significance than those who had an elevator in the total patient learning needs scale and its sub-dimensions (Table 6). Patients who had a toilet in the house and who had an alpha-flush toilet had higher levels of significance than those who had an alpha-flush toilet in the patient learning needs scale and its sub-dimensions of medications, community and follow-up, feelings about the situation, and skin care (Table 7).

There is no statistically significant difference between chronic disease, continuous medication use, smoking and alcohol use in terms of patient learning needs scale and sub-dimension scores, while there is a statistically significant difference between previous surgery and feelings related to the situation (p=0.027), treatment complications (p=0.048) and previous hospitalization and skin care (p=0.040) in terms of patient learning needs scale and sub-dimension scores. Accordingly,

while the significance levels of those who have not undergone surgery before are higher than those who have undergone surgery in the sub-dimensions of feelings about the situation and treatment complications sub-dimensions of the patient learning needs scale, the significance levels of those who have not been hospitalized before are higher than those who have been hospitalized before in the skin care sub-dimension of the patient learning needs scale (Table 8).

In the multiple regression analysis examining the factors affecting the patient learning needs scale score, it was found that marital status had a statistically significant effect (p=0.008). Accordingly, the patient learning needs scale score of those whose marital status was single was 21.950 units lower than married patients (Table 9).

Table 1.

Items and scores of the Patient Learning Needs Scale (PLNS) and subscales

Scale and Subscales	Number of Articles	Article Numbers	Minimum and Maximum Values
Medicines	8	3,8,16,18,37,39,44,45	8-40
Life Activities	9	2,5,14,17,27,28,29,30,48	9-45
Community and Monitoring	6	6,9,22,31,36,41	6-30
Feelings about the Situation	5	7,24,32,35,42	5-25
Treatment and Complications	9	1,4,10,19,20,23,26,38,47	9-45
Quality of Life	8	11,13,15,21,34,40,46,50	8-40
Skin Care	5	12,25,33,43,49	5-25
Total	50		50-250

(Çatal and Dicle 2008)

Table 2.

Analysis of findings related to demographic characteristics of patients

		n	%
Age	mean±ss (min-max)	65.03±6.88 (50-77)	
Gender	Woman	47	78.3
	Male	13	21.7
Boy	mean±ss (min-max)	158.83±6.80 (144-179)	
Weight	mean±ss (min-max)	74.63±10.59 (60-112)	
BMI (Body Mass Index)	mean±ss (min-max)	29.58±3.52 (23.80-41.40)	
Clinical diagnosis	Gonarthrosis	60	100.0
Duration of hospitalization (days)	mean±ss (min-max)	5.30±1.69 (2-11)	
Type of anesthesia	Spinal	53	88.3
	General	7	11.7
Education status	Illiterate	19	31.7
	Primary school and above	41	68.3
Marital status	Married	26	43.3
	Single	34	56.7
Employment status	Not working	60	100.0
Income status	Income less than expenditure	10	16.7
	Income equal to expenditure	48	80.0
	Income more than expenditure	2	3.3
People living together	Alone	16	26.7
	Wife	28	46.7
	Spouse and children	7	11.7
	Children	9	15.0
Place of residence	City center	6	10.0
	District	41	68.3
	Village	13	21.7
Floor of the house lived in	Floor	11	18.3
	1st floor	28	46.7
	2nd floor	5	8.3
	3rd floor and above	16	26.7
Presence of an elevator at home	Yes	10	16.7
	No	50	83.3
Availability of toilet facilities in the place of residence	The toilet is inside the house and is saturated	19	31.7
	The toilet is inside the house and it's a laundromat	41	68.3
Material and moral support from family and environment	Very good	48	80.0
	Good.	12	20.0

Table 3.

Examination of health history characteristics of patients

		n	%
Presence of chronic disease	Yes	33	55.0
	No	27	45.0
Chronic diseases	Hypertension	23	69.7
	Diabetes	4	12.1
	Heart disease	4	12.1
	Rheumatic disease	1	3.0
	Other	1	3.0
Continuous medication use	Yes	33	55.0
	No	27	45.0
Presence of allergy	Yes	1	1.7
	No	59	98.3
The presence of allergy to what	Allergy to alfacillin (antibiotic)	1	1.7
	No	59	98.3
Smoking status	Does not use	49	81.7
	Uses	11	18.3
Pack of cigarettes smoked per day	1 package/day	5	8.3
	2 packs/day	5	8.3
	Does not use	49	81.7
	Half a pack/day	1	1.7
Frequency of alcohol consumption	Does not use	60	100.0
Previous surgery status	Yes	29	48.3
	No.	31	51.7
Availability of a companion	Continuously available	59	98.3
	There are certain time intervals	1	1.7
Degree of closeness of the caregiver	No	1	1.7
	My wife	29	48.3
	Children	30	50.0
Previous hospitalization	Yes	37	61.7
	No	23	38.3
Status of receiving discharge training for home care	Yes	60	100.0
Status of the caregiver's discharge training	Yes	60	100.0

Table 4.

Descriptive statistics and distribution of significance level scores of the Patient Learning Needs Scale (PLNS) and its subscales

	Mean	ss	Min	Max	Significance Levels	Cronbach's alpha
PLNS	**168.90**	**32.34**	**80**	**249**	**3.37**	**0.973**
Medicines	27.93	5.09	13	40	3.49	
Life activities	31.08	6.44	17	45	3.40	
Society and monitoring	19.60	4.13	10	30	3.26	
Emotions about the situation	13.33	4.56	5	25	2.66	
Treatment and complications	32.87	5.99	18	45	3.65	
Quality of life	27.05	5.39	12	40	3.38	
Skin care	17.03	3.15	5	25	3.40	

Table 5.

Examination of the Relationship between the Patient Learning Needs Scale and its Subscales and Demographic Characteristics of Patients

	Medicines	Life activities	Society and monitoring	Emotions about the situation	Treatment and complications	Quality of life	Skin care	PLNS
	mean±ss	mean±ss	mean±ss	mean±ss	mean±ss	mean±ss	mean±ss	mean±ss
Gender								
Woman	27.78±5.36	30.68±6.46	19.44±4.37	13.29±4.59	32.55±6.29	26.95±5.78	16.89±3.31	167.62±33.99
Male	28.46±4.07	32.53±6.41	20.15±3.13	13.46±4.59	34.00±4.76	27.38±3.75	17.53±2.53	173.53±26.09
t/p	-0.419/0.676	-0.918/0.362	-0.543/0.588	-0.113/0.909	-0.768/0.445	-0.250/0.802	-0.649/0.518	-0.581/0.563
Type of anesthesia								
Spinal	28.24±5.26	31.50±6.47	19.71±4.26	14.00±4.31	33.13±5.91	27.35±5.51	17.16±3.29	171.13±32.96
General	25.57±2.69	27.85±5.55	18.71±2.92	8.28±3.09	30.85±6.59	24.71±3.81	16.00±1.52	152.00±22.04
t/p	1.313/0.194	1.421/0.160	0.601/0.550	**3.382/0.001***	0.943/0.349	1.225/0.225	0.921/0.360	1.486/0.142
Education status								
Illiterate	26.31±4.06	28.89±5.23	18.68±3.24	12.00±3.77	30.63±5.64	25.57±4.42	16.21±1.61	158.31±25.16
Primary school and above	28.68±5.38	32.09±6.75	20.02±4.44	13.95±4.79	33.90±5.91	27.73±5.70	17.41±3.60	173.80±34.34
t/p	-1.701/0.094	-1.825/0.073	-1.174/0.245	-1.561/0.123	**-2.019/0.048***	-1.453/0.151	-1.785/0.079	-1.756/0.084
Marital status								
Single	29.38±5.65	32.73±6.87	20.70±4.37	14.91±4.67	34.32±6.07	28.64±5.70	17.70±3.78	178.41±35.29
Married	26.03±3.51	28.92±5.19	18.15±3.33	11.26±3.51	30.96±5.40	24.96±4.19	16.15±1.75	156.46±23.21
t/p	**2.809/0.006***	**2.356/0.021***	**2.475/0.016***	**3.318/0.001***	**2.226/0.029***	**2.770/0.007***	**2.110/0.039***	**2.746/0.008***
Income status								
a. Income less than expenditure	27.80±3.67	31.70±5.16	19.40±3.47	12.60±3.30	33.20±4.39	26.20±3.67	17.10±2.37	168.00±23.21
b. Income is equal to expenditure	28.31±4.99	31.39±6.44	19.85±4.12	13.70±4.70	33.18±6.01	27.60±5.32	17.33±2.83	171.39±32.00
c. Income is more than expenditure	19.50±9.19	20.50±4.94	14.50±6.36	8.00±4.24	23.50±7.77	18.00±8.48	9.50±6.36	113.50±47.37
F/p	3.082/0.053	2.987/0.058	1.667/0.197	1.701/0.191	2.675/0.077	**3.467/0.037*(a)**	**7.176/0.001*(a)**	**3.325/0.043*(a)**

a.b.c: indicates mean differences between groups (Tukey)

F: One-way ANOVA test. t: Independent sample t test:p<0.05*

Table 6.

Examination of the Relationship between the Patient Learning Needs Scale and its Subscales and Demographic Characteristics (continued)

	Medicines	Life activities	Society and monitoring	Emotions about the situation	Treatment and complications	Quality of life	Skin care	HÖGÖ
	mean±ss	**mean±ss**	**mean±ss**	**mean±ss**	**mean±ss**	**mean±ss**	**mean±ss**	**mean±ss**
People living together								
a. Alone	25.31±2.52	28.62±4.70	17.12±3.38	11.37±3.15	30.75±4.64	24.81±3.88	15.81±1.64	153.81±19.81
b. Spouse	29.46±4.50	32.96±6.13	21.07±3.32	15.00±4.38	34.75±4.59	28.82±4.06	17.96±2.92	180.03±27.77
c. Spouse and children	29.85±8.97	32.42±9.43	20.57±6.02	14.42±5.59	34.14±9.11	28.71±9.44	17.00±6.19	177.14±53.94
d.Children	26.33±4.71	28.55±6.14	18.66±4.24	10.77±4.49	29.77±7.52	24.22±5.54	16.33±2.00	154.66±31.82
F/p	**3.210/0.029*(a)**	2.272/0.090	**3.886/0.013*(a)**	**3.779/0.015*(a)**	2.711/0.053	**3.330/0.025*(a)**	1.838/0.150	**3.361/0.024*(a)**
Place of residence								
City center	25.33±8.38	28.66±7.84	19.66±5.16	10.33±5.85	31.33±9.41	24.50±7.89	16.00±5.58	155.83±46.76
District	28.17±4.95	31.46±6.45	19.43±4.37	13.73±4.42	32.75±5.93	27.36±5.47	17.31±2.77	170.24±32.34
Village	28.38±3.54	31.00±6.01	20.07±2.92	13.46±4.19	33.92±4.40	27.23±3.65	16.61±3.01	170.69±25.44
F/p	0.874/0.422	0.485/0.617	0.115/0.891	1.485/0.234	0.397/0.673	0.743/0.480	0.594/0.555	0.536/0.587
Floor of the house lived in								
Floor	27.63±4.75	30.90±6.65	20.18±3.91	13.09±4.90	33.36±5.02	27.27±5.06	16.54±3.55	169.00±31.81
1st floor	28.50±5.21	31.96±6.83	19.92±4.31	14.21±4.27	32.96±6.36	27.42±5.56	17.32±2.85	172.30±33.46
2nd floor	28.20±9.28	31.20±9.23	19.80±6.30	14.60±5.89	32.80±9.03	27.40±9.20	16.40±6.65	170.40±54.94
3rd floor and above	27.06±3.67	29.60±4.81	18.56±3.32	11.56±4.25	32.30±5.37	26.10±4.19	17.06±1.91	162.37±23.41
F/p	0.278/0.841	0.437/0.726	0.460/0.711	1.313/0.278	0.060/0.980	0.207/0.890	0.224/0.879	0.313/0.815
Presence of an elevator at home								
Yes	26.40±3.80	30.40±5.60	19.10±2.37	9.90±4.04	32.30±5.96	25.10±3.81	16.80±1.22	160.00±23.09
No.	28.24±5.28	31.22±6.64	19.70±4.40	14.02±4.37	32.98±6.04	27.44±5.59	17.08±3.41	170.68±33.78
t/p	-1.043/0.300	-0.364/0.716	-0.416/0.678	**-2.751/0.007***	-0.325/0.746	-1.259/0.212	-0.451/0.653	-0.952/0.344

a.b.c: indicates mean differences between groups (Tukey)

F: One-way ANOVA test. t: Independent sample t test:p<0.05*

Table 7.

Examination of the Relationship between the Patient Learning Needs Scale and its Subscales and Demographic Characteristics (continued)

	Medicines	Life activities	Society and monitoring	Emotions about the situation	Treatment and complications	Quality of life	Skin care	PLNS
	mean±ss	mean±ss	mean±ss	mean±ss	mean±ss	mean±ss	mean±ss	mean±ss
Availability of toilet facilities in the place of residence								
The toilet is inside the house and is saturated	30.26±5.07	33.21±7.27	21.36±4.17	15.36±4.80	34.78±5.71	29.00±5.28	18.21±3.58	182.21±34.41
The toilet is inside the house and it's a laundromat.	26.85±4.78	30.09±5.85	18.78±3.88	12.39±4.16	31.97±5.96	26.14±5.25	16.48±2.81	162.73±29.76
t/p	**2.519/0.014***	**1.771/0.081**	**2.344/0.022***	**2.452/0.017***	1.721/0.090	1.953/0.055	**2.020/0.047***	**2.243/0.028***
Material and moral support from family and environment								
Very good	27.75±4.97	30.95±6.23	19.52±3.77	13.06±4.31	32.72±5.80	27.00±5.21	16.85±3.09	167.87±31.02
Good.	28.66±5.72	31.58±7.50	19.91±5.50	14.41±5.48	33.41±6.90	27.25±6.26	17.75±3.41	173.00±38.36
t/p	-0.554/0.581	-0.298/0.766	-0.294/0.769	-0.919/0.361	-0.353/0.725	-0.142/0.887	-0.879/0.382	-0.487/0.627

F: One-way ANOVA test. t: Independent sample t test:p<0.05*

Table 8.

Examination of the Relationship between the Patient Learning Needs Scale and its Subscales and Demographic Characteristics (continued)

	Medicines	Life activities	Society and monitoring	Emotions about the situation	Treatment and complications	Quality of life	Skin care	PLNS
	mean±ss	mean±ss	mean±ss	mean±ss	mean±ss	mean±ss	mean±ss	mean±ss
Presence of chronic disease								
Yes	27.48±4.56	30.33±6.44	19.15±3.75	12.66±3.84	32.30±5.79	26.57±4.57	16.69±2.25	165.21±28.72
No.	28.48±5.71	32.00±6.45	20.14±4.54	14.14±5.26	33.55±6.25	27.62±6.28	17.44±3.99	173.40±36.31
t/p	-0.751/0.455	-0.996/0.323	-0.929/0.356	-1.258/0.213	-0.803/0.424	-0.750/0.455	-0.865/0.391	-0.976/0.332
Continuous medication use								
Yes	27.72±4.30	30.75±6.05	19.36±3.65	12.87±3.77	32.81±5.50	26.84±4.43	16.87±2.27	167.27±27.34
No.	28.18±5.99	31.48±6.99	19.88±4.69	13.88±5.38	32.92±6.63	27.29±6.44	17.22±4.01	170.88±38.01
t/p	-0.343/0.732	-0.429/0.668	-0.487/0.627	-0.822/0.414	-0.068/0.945	-0.317/0.751	-0.395/0.694	-0.427/0.670
Smoking and alcohol use								
Does not use	28.20±5.41	31.36±6.63	19.73±4.41	13.65±4.63	33.08±6.40	27.26±5.80	17.16±3.35	170.46±34.47
Uses	26.72±3.16	29.81±5.60	19.00±2.56	11.90±4.06	31.90±3.64	26.09±2.87	16.45±2.06	161.90±19.94
t/p	0.867/0.389	0.717/0.475	0.530/0.597	1.150/0.254	0.583/0.561	0.978/0.335	0.670/0.504	0.790/0.432
Previous surgery status								
Yes	26.72±5.55	29.72±7.19	18.86±4.40	12.00±4.74	31.27±6.82	25.79±5.85	16.24±3.42	160.62±35.45
No.	29.06±4.41	32.35±5.46	20.29±3.78	14.58±4.06	34.35±4.71	28.22±4.70	17.77±2.71	176.64±27.46
t/p	-1.813/0.074	-1.600/0.114	-1.349/0.182	**-2.267/0.027***	**-2.019/0.048***	-1.779/0.080	-1.925/0.059	-1.964/0.054
Previous hospitalization								
Yes	27.02±4.95	30.24±6.49	19.08±3.91	12.48±4.24	31.75±6.13	26.08±5.18	16.37±2.95	163.05±31.25
No.	29.39±5.06	32.43±6.26	20.43±4.40	14.69±4.80	34.65±5.39	28.60±5.45	18.08±3.23	178.30±32.48
t/p	-1.780/0.080	-1.287/0.202	-1.241/0.219	-1.863/0.067	-1.858/0.068	-1.799/0.077	**-2.100/0.040***	-1.810/0.075

t:Independent sample t test:p<0.05*

Table 9.

Multiple regression analysis of the factors affecting the Patient Learning Needs Scale score

	Unstandardized coefficient		Standardized coefficient	t	p	95.0% CI	
	B	Std. Error	Beta			Lower limit	Upper limit
HÖGÖ							
(Fixed)	200.362	12.122		16.529	0.000	176.098	224.626
Marital status	-21.950	7.993	-0.339	-2.746	0.008	-37.949	-5.951

(F:7.542. p:0.008. R2 :0.115)

4. DISCUSSION

When the importance levels of the scale subgroups were analyzed, it was seen that the highest importance level score was treatment and complications, followed by medications, life activities and skin care, quality of life, community and follow-up, and feelings about the situation, respectively. Similarly, in the study of Dursun and Yılmaz (2015), the highest medications and treatment complications sub-dimension was observed.[8] In this context, the fact that patients want to be informed about their treatment, the desire to learn about the complications that may occur in the postoperative process, their medication use after discharge, and the need to learn about issues such as skin care and quality of life. In addition, the variability in the results may be due to the fact that the sample group in the study was different and had different socioeconomic and educational levels.

Length of stay is accepted as a criterion for the quality of care and health assessment. According to this acceptance, shortening the length of hospitalization is important in terms of reducing the cost burden of care and preventing complications such as infection that may occur with an increase in the length of hospitalization.9 In the study of Şahin and Türe, it was concluded that the use of general anesthesia increased the duration of hospitalization in the study affecting the duration of operation, patient and hospitalization after surgery.[10] In this study, the average length of stay (days) of the patients was 5.30±1.69, which was due to the fact that the majority of the patients underwent spinal anesthesia and therefore the length of stay was short.

In the study, 88.3% of the patients underwent spinal anesthesia. There was a significant difference between the emotions sub-dimension of the patients' learning needs scale and the type of anesthesia; the higher importance of patient learning needs of patients with spinal anesthesia may be attributed to their lack of knowledge about spinal anesthesia and their thoughts about how their bodies will adapt after anesthesia and how they will express their feelings about the disease.

Between educational status and treatment and complications, which are sub-dimensions of the scale, it was found that those with an educational status of primary school and above needed more education, especially in the sub-dimension of treatment and complications, than those who were illiterate. Similarly, in the study of Tan et al. (2013), the mean scores of medications and quality of life of those with high school and above education were found to be higher than other education level groups.[11] In the study conducted

by Çetinkaya and Aşiret (2017), it was found that patients' expectations increased and learning needs were higher as the educational level increased[12]; similarly, in the study of Dursun and Yılmaz (2015) on patient learning needs, it was found that the need for education was higher with increasing educational level8. On the other hand, in the study conducted by Gök and Faydalı, no significant relationship was found between the level of education and learning needs, but it was observed that the need for information increased with increasing education level[13]. These results, in line with the literature, show that as the level of education increases, the learning needs of the patients also increase and they have more awareness about the disease and its treatments.

In terms of marital status and patient learning needs scale and sub-dimension scores, it was found that single patients had higher learning needs. Similarly, in the study of Özdelikara et al. (2013), the mean scores of quality of life, medications and community and follow-up sub-dimensions showed that the learning needs of single patients were met more than married patients; according to the study of Doğan et al. (2019), it was observed that the learning needs of single patients were met more than married patients[11,14] On the other hand, Uzun and Demirkıran (2012) found that marital status did not have much effect on learning needs.[15] The higher learning needs of singles in the study may be due to the fact that single individuals have to bear everything alone during the surgery process and adaptation to the situation.

In terms of the patient learning needs scale and sub-dimension scores between the status of having surgery before and the sub-dimensions of emotions related to the situation, the patient learning needs, especially the emotions related to the situation and treatment complications sub-dimension scores of those who have not had surgery before are higher than those who have had surgery before. Similarly, in the study conducted by Yılmaz and Dursun (2015), the average scale sub-dimension and scale total scores were found to be higher in patients who had not undergone surgery before.8 In this context, in line with the literature, it can be concluded that patients without any previous ex perience need more education about the surgical process and postoperative complications that may occur.

Between previous hospitalization status and skin care in the scale sub-dimensions; it was found that patients who had not been hospitalized before had higher learning needs. Similarly, in the study of Yılmaz and Dursun (2015), those who had not been hospitalized before had higher averages of scale sub-dimension and scale total scores.8 This result may be thought to be caused by situations such as being uninformed about the process to be experienced due to the lack of previous hospital experience and fear of the operation process.

In this study, in terms of income status and patient learning needs scale and quality of life and skin care sub-dimensions, learning needs in the total scale and quality of life and skin care sub-dimensions were found to be higher in those whose income was less than their expenses. In the study conducted by Eskicioğlu et al. (2019) in the literature, no significant difference was found between income status and learning needs.[16] In this context, the reason why the learning needs of patients with low income expenses were found to be higher may be explained by the fact that they think too much about the postoperative care burden and the cost dimension brought by the disease.

In this study, although there was no significant relationship between material and moral support from family and environment and patient learning needs scale and sub-dimension scores, human

being is a social being in every aspect and the effect of social and cultural environment on health is inevitable. It can be thought that patients with more material and moral support from the environment will have a faster recovery and adaptation process to the prosthesis.[17] Motivation is one of the important factors that determine the individual's willingness to learn, the psychological support of the environment positively affects the patient's willingness to learn and is considered important for discharge education to be provided with good communication.[18]

5. CONCLUSION

In conclusion, the study conducted to determine the post-discharge learning needs of patients who underwent total knee replacement surgery showed that the learning needs of the patients were moderately important. When the importance levels of the scale subgroups were analyzed, treatment and complications had the highest importance level score, followed by medications, life activities and skin care, quality of life, community and follow-up, and feelings about the situation.

Recommendations for better nursing care and discharge education after a study on the determination of learning needs after total knee replacement surgery and discharge;

Since the group with total knee replacement surgery is generally in the advanced age group, it is very important for nurses to master the body systematics for the advanced age group while providing care and communicating with the patient (in care, determining learning needs, during discharge education, etc.).

When determining the learning needs of the individual, it should not only be centered on the individual, it should be approached systematically by considering the caregivers and providing discharge training. Thus, it is thought that repeated hospitalizations can be prevented, health care costs will be positively affected, and unnecessary emergency hospitalizations can be prevented.

From the moment the patient is hospitalized, he/she should be observed in terms of learning needs on discharge. During the time in the hospital, the patient's information needs should be met in line with the care plans.

In addition, more detailed analysis of the sub-dimensions with higher learning needs will contribute to the literature to understand the specific expectations of patients on these issues. It is also recommended that patients be followed up periodically after discharge to evaluate the new educational needs they encounter at home, and to evaluate variables such as mental health status and social support of patients to examine the effect of psychosocial factors on learning needs. With these recommendations, important contributions can be made to individualize and increase the effectiveness of patient education programs for future studies.

Conflict of interest statement

The authors declared that there was no conflict of interest.

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Ethics approval

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Author Contributions

Study design: EC, HCA; Data collection: EC, HCA;

Data analysis: EC, HCA; Study supervision: HCA; Manuscript writing: EC, HCA; Critical revisions for important intellectual content: EC, HCA

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