

Hemşirelerin Beslenme Desteğine İlişkin Bilgi ve Tutumları: Tanımlayıcı Bir Araştırma

Nurses' Knowledge and Attitudes Regarding Nutrition Support: A Descriptive Study

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Özet; Amaç: Bu çalışmada cerrahi ve yoğun bakım hemşirelerinin beslenme desteğine ilişkin bilgi ve tutumlarının belirlenmesi amaçlandı. **Yöntem:** Bu tanımlayıcı kesitsel çalışmanın örneklem büyüklüğü G-Power yazılımı kullanılarak hesaplandı. Araştırmanın örneklemini bir üniversite hastanesinde çalışan 95 hemşire oluşturmaktadır. Hemşirelerin yaş ortalaması 27.45±5.132 yıl olup %87.4'ü kadındır. Veriler, sosyodemografik sorular ile "Beslenme Desteği Bilgi Soruları" (min-max puan 0-10 arası) ve "Nutrisyon Desteğine Yönelik Tutum Soruları" (min-max puan 0-28 arası) bölümlerinden oluşan ve araştırmacı tarafından literatüre dayalı olarak hazırlanan veri toplama formu kullanılarak toplandı. Çalışma verileri, tanımlayıcı istatistikler (ortalama ve yüzde değerleri) ve ki-kare analizleri kullanılarak değerlendirildi. **Bulgular:** Hemşirelerin yaş ortalaması 27.45±5.132 olarak bulundu. Araştırmaya katılan hemşirelerin %87,4'ü kadın olarak belirlendi. Araştırmaya katılan hemşirelerin konu ile ilgili bilgi düzeylerinin orta ve tutumlarının düşük düzeyde olduğu saptandı. Hemşirelerin %84,2'si beslenme desteği konusunda eğitim almış, %97,9'u beslenme desteği alan hastalara bakım vermiştir. Hemşirelerin beslenme desteğine ilişkin bilgi puan ortalaması 50,11±1,95 olarak belirlendi. Beslenme desteğine ilişkin tutum puan ortalamaları 12,37±0,2 olarak belirlendi. Hemşirelerin malnütrisyona tanımı (%84,2), beslenme desteğine başlamak için ideal zaman (%77,9), strese metabolik yanıt konularında yüksek oranda yanlış yanıt verdiği (%77,9) ve beslenme desteği alan hastalarda izlenecek biyokimyasal parametreler (%76,8). Hemşirelerin %58,9'u hastaların malnütrisyon riski taşıyıp taşımadığını belirleyecek bilgi ve beceriye sahip olduğunu, %57,9'u yeterli beslenme desteği ile komplikasyonların ve hastanede kalış sürelerinin azalacağını, %63,2'si beslenme değerlendirmesi ve beslenme ile ilgili eğitim verilmesini kabul etti. beslenme desteği mesleki kariyerleri için değerli olacaktır. **Sonuç:** Bu çalışmada hemşirelerin beslenme desteği tedavisine ilişkin bilgi ve tutumlarının yeterli olmadığı saptandı. Hemşirelerin konuyla ilgili eksik bilgilerinin giderilmesi ve güncellenmesi, beslenme desteği alan hastalara hemşirelik bakımı verme becerilerini destekleyecek eğitimlerin planlanması, yürütülmesi ve değerlendirilmesi önerilebilir.

Anahtar Sözcükler: Beslenme Desteği, Bilgi Düzeyi, Hemşire, Tutum.

Abstract; Aim: This study aimed to determine surgical and intensive care nurses' knowledge and attitudes regarding nutrition support. **Method:** The sample size of this descriptive cross-sectional study was calculated using G-Power software. The study sample included 95 nurses working in a university hospital. The nurses' mean age was found to be 27.45±5.132 years and %87.4 of them are women. The data is a 29-question dataset consisting of sociodemographic questions and "Knowledge Questions on Nutrition Support" (min-max points that can be taken 0-10) and "Attitude Questions towards Nutrition Support" (min-max points that can be taken 0-28) prepared by the researcher based on the literature. evaluated using the collection form. Study data were evaluated using descriptive statistics (mean and percentage values) and chi-square analyses. **Findings:** Of the nurses, 84.2% had training regarding nutrition support, and 97.9% provided care to patients receiving nutrition support. The nurses' mean knowledge score regarding nutrition support was determined to be 50.11±1.95. It was found that the knowledge level of the nurses participating in the study on the subject was moderate and their attitudes were low. Their mean attitude score regarding nutrition support was determined to be 12.37±0.2. High percentages of the nurses gave wrong answers for the definition of malnutrition (84.2%), the ideal time for beginning nutrition support (77.9%), the metabolic response to stress (77.9%), and biochemical parameters to be followed up in patients receiving nutrition support (76.8%). Of the nurses, 58.9% agreed that they had enough knowledge and skill to determine if patients are at risk of malnutrition, 57.9% agreed that complications and duration of hospitalization would decrease with sufficient nutrition support, and 63.2% agreed that training regarding nutrition assessment. **Conclusion:** This study found that the nurses' level of knowledge and attitudes regarding nutrition support treatment was not adequate. It can be suggested to eliminate and update the missing information of nurses on the subject, and to plan, conduct and evaluate trainings that will support their skills in providing nursing care to patients receiving nutritional support.

Keywords: Nutrition Support, Level of Knowledge, Nurse, Attitude.

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INTRODUCTION

Adequate and balanced nutrition is a fundamental rule for a healthy life. The onset of disease can disrupt adequate and balanced nutrition. Malnutrition, characterized by rapid catabolism and inadequate nutrition due to disease, has adverse effects on all the systems in the body (Savaş & Bıçaklı, 2011; Aygencel, 2017; Sivrikaya & Eryılmaz, 2018). Malnutrition has the following systemic effects: delay in wound healing, suppression of the immune system, atrophy in striated muscles, regression in mental functioning, atrophy of the intestinal mucosa, and reduction in functional capacities (Güngör, 2015; Yılmaz et al., 2017; Aygencel, 2017).

Malnutrition may emerge based on primary or secondary reasons. Not having enough nutritional elements for the normal maintenance of metabolism is “primary” malnutrition, whereas a malnourished condition emerging because of a disease or injury is “secondary” malnutrition. Nedenlerini ekle. Malnutrition is frequently seen in inpatients, and its rate of incidence ranges from approximately 20% to 60%. Of these patients, 10 to 25% suffer from severe malnutrition (Savaş & Bıçaklı, 2011; Jefferies et al., 2011; Güngör, 2015; Aygencel, 2017).

The primary clinical results of malnutrition are as follows: severe weight loss, edema, delay in wound healing, disruption of the immune response, predisposition to infection, and reduction in general functional capacity. Secondary results of malnutrition are as follows: increase in morbidity and mortality, increase in the duration of hospitalization, increase in hospital costs, and delay in wound healing in surgical patients (Fletcher et al., 2011; Aygencel, 2017; Karasu & Özşaker, 2019).

Diagnosis and treatment of malnutrition decrease morbidity and mortality. Patients should receive nutrition support according to their clinical conditions in cases of malnutrition. Nutrition support aims to overcome the deficiencies of nutritional elements in accordance with the clinical

conditions of the patients, prolong survival, improve muscle function, support immune responses, improve gastrointestinal (GI) tract functions, accelerate wound healing, prevent complications based on route of administration of nutritional elements, improve body composition, prevent tissue destruction, reduce morbidity, and improve general economic results (Gündoğdu, 2008; Uyar, 2011; Jefferies et al., 2011).

Malnutrition is a factor directly affecting the disease process. Therefore, malnutrition support should be a continuous and significant part of patient care. Malnutrition risk screening should be done immediately after patients are admitted to the clinic or to medical institutions (Savaş & Bıçaklı, 2011; Bjerrum et al., 2013; Karasu & Özşaker, 2019). During hospitalization, patients’ nutritional conditions should be determined through a nutritional risk tool with proven validity. Patients with malnutrition should be identified and treated (Güngör, 2015). Assessing patients’ nutritional condition and planning nutrition support are significant parts of patient treatment (Savaş & Bıçaklı, 2011; Aygencel, 2017; Sivrikaya & Eryılmaz, 2018; Karasu & Özşaker, 2019).

Nurses have responsibilities in the following processes: determination of patients’ nutrition support needs, developing nutrition support practices, and improving and maintaining patients’ nutritional status (Jefferies et al., 2011; Karasu & Özşaker, 2019). Patients receiving nutritional support should receive individualized care. Additionally, in the nursing care and management of the patients receiving nutrition support, nurses should do the patients’ nutritional screening, assess patients’ nutritional conditions, and cooperate with other healthcare professionals while determining the route of administration, timing of administration, and methods and solution of the nutrition support (Jefferies et al., 2011; Aygencel, 2017). Amongst health professionals, nurses are expected to have enough knowledge, practicum, and skill regarding nutrition support (Yalcin et al., 2013; Güngör, 2017; Yılmaz et al., 2017; Sivrikaya & Eryılmaz, 2018). In addition, nurses should have

positive attitudes towards training and nutrition for the achievement of nutrition support goals (Bjerrum et al., 2012).

Rasmussen et al. (1999) stated that 84% of nurses think that patients should be given care including a nutrition plan, 39% of nurses have difficulty making an individualized care plan, and 79% think that clinical guides regarding nutrition are necessary. Nurses have important roles and responsibilities in the determination of inpatients' nutritional conditions and management of nutrition support practices. Thus, it is important to determine clinical nurses' knowledge and attitudes regarding nutrition support. A few studies have been conducted to examine nurses' knowledge and attitudes regarding nutrition support.

This study aimed to examine nurses' knowledge and attitudes regarding nutrition support. This study is expected to answer the following questions: (1) What is the nurses' level of knowledge regarding nutrition? (2) What are the nurses' attitudes regarding nutrition support?

METHOD

This descriptive study was conducted with surgical nurses and intensive care nurses working in a university hospital.

The study was conducted between April 6, 2018, and June 29, 2018. The study population included 298 nurses. Of these nurses, 46 worked in surgical clinics, 57 worked in internal medicine clinics, 44 worked in the units including both internal medicine and surgical clinics, and 151 worked in intensive care units other than pediatric and newborn intensive care units.

The sample size was determined using G-power 3.1.9.2 analysis based on a study by Awad et al. (2010). It was found to be 88 based on the following parameters: medium effect size of $d=0.05$ and 80% power. The stratified sampling method was conducted based on the clinics where nurses worked. The final number of nurses was calculated with 10% more in case of data loss. Accordingly, the study aimed to reach 97 nurses (19 from surgical clinics, 22 from internal medicine clinics,

and 59 from the service including both internal medicine and surgical clinics).

The study was eventually conducted with 95 nurses who agreed to participate. The study complies with the STROBE Checklist published in 2007 (see supplementary file 1).

Study data were evaluated using a questionnaire including 29 questions. Of these questions, 12 questions were regarding nurses' introductory information, 7 questions measured attitude and were prepared based on the literature, and 10 questions were for determining nurses' knowledge (Awad et al., 2010; Al Kalaldehy, 2015; Uysal et al., 2011; Çekmen & Dikmen, 2014). These knowledge questions were multiple-choice.

Each correct answer was graded as 10 points, and each wrong answer was graded as 0 points. The maximum and minimum scores obtainable from the knowledge questions were 100 and 0, respectively. Attitude questions were prepared as 4-Likert type. Scores were determined as 4, 3, 2, and 0 points for each "strongly agree," "agree," "disagree," and "strongly disagree" answer, respectively. The maximum and minimum scores obtainable from the attitude questions were 28 and 0, respectively. This form was sent to five nurses with doctorates in the nursing field, and expert opinions were received. Then, revisions were made based on their recommendations. Later, a pilot study was conducted with 10 nurses, and the understandability and usability of the questionnaire form were improved. Nurses participating in the pilot study were excluded from the main study.

Intensive care units to be included in the study were determined in the pilot study. Nurses were informed about the study after going to certain units. If they agreed to participate in the study, they were asked to fill out the questionnaire form. Later, the form was given to them and they completed it. The whole data collection process was completed in 15 minutes. Nurses who were not reached in the first visit were visited twice, and those who were not reached in the second visit were visited three times. Data forms were collected from the nurses after they answered the questions. Ethical approval

was gained from the Non-Interventional Clinical Research Ethics Committee (50107718-050.04.04) and permissions acquired for the research to be undertaken at the hospital (50107718-050.04.04).

Statistical analyze

Study data were analyzed using the SPSS (Statistical Package for Social Sciences) 18.0 for Windows package program. Study data were evaluated using descriptive statistics (mean and percentage values) and chi-square analyses. Nurses' sociodemographic characteristics, knowledge, and attitudes regarding nutrition support were examined using number, percentage and mean.

Since the knowledge and attitude scores of the nurses participating in the study were $p < 0.05$ according to the Shapiro-Wilk test result, one of the normality tests, non-parametric tests were used to compare the dependent variables and their score averages. Kruskal Wallis test was used to compare nurses' working hours and educational status with

their average score. In addition, Mann Whitney U test was used to compare the average scores of nurses according to their care for patients receiving nutritional support, receiving training on nutritional support, and the clinic they worked in. $P < 0.05$ values were accepted as statistically significant.

RESULTS

Of the participants, 87.9% (n=83) were female, 53.7% (n=51) were single, and 69.5% (n=66) had an undergraduate or graduate degree. The nurses' mean age was 27.45 ± 5.13 , and their mean working duration was 61.67 ± 44.47 months. Of the nurses, 97.9% (n=93) provided care to patients on nutritional support, 84.2% (n=80) had previous training regarding nutrition support, and 35.4% (n=28) named their places of education as undergraduate study and in-service training. Of the nurses, 59% (n=56) worked in surgical units (Table 1).

Table 1. Nurses' Personal Characteristics (N=95)

Nurses' Personal Characteristics (n=95)		
	X ± SD	
Mean Age	X ± SD	27.45±5.132
Mean Working Duration in the Clinic (Month)	X ± SD	57.16±33.529
	Number (n)	Percentage (%)
Gender		
Female	83	87.4
Male	12	12.6
Marital Status		
Single	51	53.7
Married	44	46.3
Education Level		
Vocational High School and Associate Degree	29	30.5
Undergraduate and Graduate Degree	66	69.5
Task in the Clinic		
Clinical Nurse	87	91.6
Supervisor Nurse	8	8.4
Clinic Where They Work		
Surgical Units	56	59
Intensive Care Units	39	41
Training Regarding Nutrition Support		
Yes	80	84.2
No	15	15.2
Provided Care to Patients Receiving Nutrition Support		
Yes	93	97.9
No	2	2.1

X: Average, SD: Standart deviation, n: Sample, %: Percentage.

Of the nurses, 84.2% were aware of the fields of physical examination used in nutrition assessment of patients receiving nutrition support, 83.2% knew what to do in case of complication in patients receiving nutrition support, and 74.7% were aware of the complications of nutrition support treatment.

However, 84.2% did not know the definition of malnutrition, 77.9% did not know the ideal time to initiate nutrition support treatment, and 77.9% did not know the metabolic response to stress. The nurses' total mean knowledge score was found to be 50.11±1.95 (Table 2).

Table 2. Nurses' Knowledge Regarding Nutrition (N=95)

Nutrition Support Knowledge	Correct Answers		Wrong Answers	
	Number (n)	Percentage (%)	Number (n)	Percentage (%)
Awareness Regarding Normal Body Mass Index	62	65.3	33	34.7
Awareness of the Definition of Malnutrition	15	15.8	80	84.2
Awareness Regarding the Ideal Time to Initiate Malnutrition Support Treatment	21	22.1	74	77.9
Awareness Regarding Malnutrition Support Practices in the Patients not Having a Functional Gastrointestinal Tract	50	52.6	45	47.4
Awareness Regarding Complications of Nutrition Support Treatment	71	74.7	24	25.3
Awareness Regarding What to Do in Case of Complications in Patients Receiving Nutrition Support Treatment	79	83.2	16	16.8
Awareness Regarding Metabolic Response to Stress	21	22.1	74	77.9
Awareness Regarding Biochemical Parameters to be Followed Up in the Stable Patient Receiving Nutrition Support	22	23.2	73	76.8
Awareness Regarding Fields of Physical Examination Used in Nutrition Assessment in Patients Receiving Nutrition Support	80	84.2	15	15.8
Ethical Considerations in Nutrition Support Treatment	54	56.8	41	43.2
Mean Nutrition Support Knowledge Score	X ± SD		50.11±1.95	

X: Average, SD: Standard deviation, n: Sample, %: Percentage.

Of the nurses, 58.9% agreed that they had sufficient knowledge and skill to determine which patients were at risk of malnutrition, 57.9% agreed that complications and duration of hospitalization would decrease with sufficient nutrition support,

and 63.2% agreed that training regarding nutrition assessment and nutrition support would be valuable for their vocational careers.

The nurses' total mean attitude score was found to be 12.37±0.28 (Table 3).

Table 3. Nurses' Attitudes Regarding Nutrition (N=95)

	Strongly Disagree		Disagree		Agree		Strongly Agree	
	Number (n)	Percentage (%)	Number (n)	Percentage (%)	Number (n)	Percentage (%)	Number (n)	Percentage (%)
I feel I do not have enough knowledge regarding nutrition support.	3	3.2	33	34.7	53	55.8	6	6.3
I have enough knowledge and skill to detect patients with malnutrition risk.	1	1.1	34	35.8	56	58.9	4	4.2
I can calculate the nutrition and energy needs of patients receiving nutrition support.	2	2.1	43	45.3	45	47.4	5	5.3
I think complications and hospitalization duration would decrease with enough nutrition support given to patients.	1	1.1	8	8.4	55	57.9	31	32.6
I regularly decide the treatment processes and nutrition interventions of the patients receiving nutrition support.	5	5.3	35	36.8	52	54.7	3	3.2
I follow updated guidelines, instructions, and evidence-based practices for the management of nutrition support treatment.	3	3.2	44	46.3	44	46.3	4	4.2
I think training regarding nutrition assessment and nutrition support is valuable for my career.	0	0	9	9.5	60	63.2	26	27.4
Mean Nutrition Support Attitude Score					X ± SD		12.37±0.2	

X: Average, SD: Standard deviation, n: Sample, %: Percentage.

No significant relationship was found between nurses' mean knowledge and attitude scores. The mean knowledge score increased as the training level increased; however, the attitude score was not affected by this. No significant relationship was found between the knowledge and attitude scores of nurses giving care to patients receiving nutrition support. No significant difference was found

between the knowledge and attitude scores of nurses receiving training regarding nutrition support. A statistically significant difference was found in surgical care nurses compared to intensive care nurses. However, no statistically significant difference was found between their knowledge scores and attitude scores (Table 4).

Table 4. Comparison of Nurses' Knowledge and Attitude Scores Based on Their Personal and Professional Characteristics

Total Score		Knowledge Score		Attitude Score
		N	X±SD	X±SD
Working Duration	0-12 Months	8	50.00±21.381	13.50 ± 3.117
	13-60 Months	54	49.63 ± 19.325	11.94 ± 2.334
	61-120 Months	29	52.41 ± 18.833	12.62 ± 3.212
	121-180 Months	4	40.00 ± 14.142	14.00 ± 2.944
KW ^a ; p			2.035; 0.565	5.077; 0.166
Education Level	Vocational High School	16	48.13 ± 22.574	13.19 ± 1.721
	Associate Degree	13	44.62 ± 17.614	12.15 ± 3.236
	Undergraduate Degree	60	49.83 ± 18.086	12.25±2.710
	Post-Graduate	6	70 ± 10.954	11.83 ± 4.167
KW ^a ; p			9.588; 0.022	3.077; 0.281
Provided Care to Patients Receiving Nutrition Support				
	Yes	93	50.22 ± 18.881	12.38 ± 2.750
	No	2	45.00 ± 35.355	12.00 ± 2.828
U ^b ; p			145.000; 0.852	152.000; 0.950
Received Training Regarding Nutrition Support				
	Yes	80	49.63 ± 18.856	12.61 ± 2.740
	No	15	52.67 ± 20.517	11.07 ± 2.404
U ^b ; p			700.000; 0.804	488.000; 0.334
Clinic in Which They Work	Surgical Units	41	56.10 ± 17.011	12.56 ± 2.829
	Intensive Care Units	54	45.56 ± 19.393	12.22 ± 2.682
U ^b ; p			914.000; 0.007	1324.000; 0.99

X: Average, SD: Standart deviation, n: Sample, %: Percentage. ^aKruskal Wallis Varyans Analizi, ^bMann Whitney U Testi.

DISCUSSION

This study was conducted to determine nurses' knowledge and attitudes regarding nutrition support. The study determined that the subjects that these nurses know best are complications of nutrition support treatment, what to do for patients receiving nutrition support in case of complication, and the fields of physical examination used in nutrition assessment of patients receiving nutrition support. The nurses had positive attitudes regarding that complications and length of hospitalization would decrease with adequate nutrition support given to the patients by nurses, they had enough knowledge and skill to determine the which patients were at risk of malnutrition, and training in nutrition assessment and nutrition support would be valuable for the field of study.

This study found the nurses' mean knowledge score was 50.11 ± 1.95 , which was a moderate level. Yalcin et al. (2013) measured some nurses' mean knowledge score at 49.44 ± 10.95 out of 100. Kalender et al. (2014) observed some nurses' level of knowledge regarding total parenteral nutrition between 50 and 74. Koçhan and Akın (2018) stated that some nurses' mean knowledge score regarding enteral nutrition was at a moderate level. Karasu and Özşaker (2019) stated that some nurses' mean knowledge score regarding nutrition support was 75.75%, which is a good level. Our study results were similar to these literature results.

In 2017, the American Society for Parenteral and Enteral Nutrition (ASPEN) stated that nurses should do nutritional screening (DeLegge ve ark, 2007; Savaş ve Bıçaklı, 2011). Previous studies have shown that nurses do not regularly do nutrition screenings and lack knowledge of this subject. Yalcin et al. (2013) stated that 42% of nurses have not participated in the decision process regarding patients' nutrition situations. Karasu and Özşaker (2019) stated that 44.8% of nurses have made a nutrition diagnosis. Of the nurses participating in this study, 58.9% stated that they could do nutritional screening on patients at risk. Following

up and assessing patients' nutrition conditions routinely are important. However, nurses had a lack of knowledge regarding the assessment of nutrition condition.

This study found the nurses' mean attitude score to be 12.37 ± 0.2 . Karasu and Özşaker (2019) stated that nurses' mean knowledge score regarding nutrition support was at a good level. Study results agreed with the literature. Of the nurses in this study, 84.2% had training regarding nutrition support. Koçhan and Akın (2018) stated that 66.2% of nurses have not had training regarding nutrition support. Even though training programs regarding nutrition support for nurses were conducted, there were still groups that did not receive training. Maintaining of the continuity of training is important in terms of quality of care.

Nurses are expected to be aware of complications that may emerge in patients receiving nutrition support and should have good skills to evaluate evidence-based nursing practices and care (Özbaş & Baykara, 2018). This study determined that 74.7% of the nurses were aware of complications in patients receiving nutrition support. Yalcin et al. (2013) stated that the subject which nurses know the least is enteral nutrition (17.2%). Kalender et al. (2014) stated that nurses have enough knowledge regarding the complications of total parenteral nutrition support treatment. Questions regarding nutrition support were different in our study, which could be the reason for this discrepancy.

Care to be taken in the process of beginning and maintaining nutrition support treatment is complex. It requires experience (Naylor et al., 2004; Worthington ve ark, 2000). Nurses' years of working duration affected their knowledge score regarding nutrition support. Schaller and James (2005) stated nurses with a working duration for 10 years or more have higher knowledge scores, and this difference was statistically significant. Al-Rafay ve Al-Sharkawy (2012) stated that an increasing number of years in the profession increased nurses' knowledge scores. Yalcin et al. (2013) stated that no significant difference has been

found between increasing working duration and enteral nutrition. Karasu and Özşaker (2019) found no statistically significant difference between nurses' total working duration and knowledge and attitude scores ($p>0.05$). This study also found no significant difference between nurses' working duration and mean knowledge score ($p>0.05$) or mean attitude score ($p>0.05$). The reason for this may be studying of different groups of nurses.

Croghan et al. (2001) found that increasing education level also increased the mean knowledge score in their study measuring the nurses' level of knowledge regarding patient nutrition. Yalcin et al. (2013) stated that nurses with a graduate degree (32.1%) had the highest score (54.37 ± 14.04) on knowledge questions regarding nutrition support. Akın and Koçhan (2018) found no statistically significant difference between nurses' level of knowledge and education levels. Karasu and Özşaker (2019) found no statistically significant difference between having training regarding nutrition support and knowledge score. They also stated that nurses with training regarding this had statistically higher attitude scores. This study found a statistically significant difference between the level of education and nurses' mean knowledge scores ($p<0.05$); however, no statistically significant difference was found between the level of education and attitude scores ($p>0.05$). Previous studies show similarities with this study.

Yalcin et al. (2013) stated that only 6% of nurses follow publications regarding nutrition and obtain up-to-date knowledge from scientific meetings. Knowledge constantly changes and is renewed in the science of nursing; therefore, integrating new knowledge into patient care, finding time for learning, and determining how to reach sources of information may be difficult (Porter et al., 2009). Integration of evidence-based clinical practice guides with patient care increases the quality of patient care; therefore, individualized care can be practiced (Adam, 2000; Iacono, 2000). This study also found that attitudes regarding following up-to-date guidelines, instructions, and evidence-based

practices for nurses' management of nutrition support treatment were not good enough. Study results showed similarities with the literature. This may be because of nurses' not being sufficiently aware of their primary roles in nutrition support treatment.

Intensive care patients had a higher risk of nutritional deficiency than other patients because of complications such as sepsis that might accompany multi-systemic disorders. Therefore, the management of nursing care is important in intensive care patients receiving nutrition support (Kahveci, 2015). Malnutrition seen perioperatively has been a significant problem critically affecting morbidity and mortality (Dumlu et al., 2013). There was a statistically significant difference between total mean knowledge scores of surgical nurses and intensive care nurses ($p<0.05$). However, no difference was found between these nurses' mean attitude scores ($p<0.05$). The reason for this may be that more nutrition support was practiced with the surgical patients because they had oncological surgery and gastrointestinal system surgery.

CONCLUSION AND RECOMMENDATIONS

Nurses' fundamental responsibilities include follow-up, continuity, and maintenance of nutrition support. This study found the subjects nurses knew least were the right time for initiating nutrition support treatment and the metabolic responses to stress. This study found that the nurses' level of knowledge and attitudes regarding nutrition support treatment were not good enough. Determining patients' nutrition conditions, as well as initiating and maintaining nutrition support treatment in patient groups at risk require effective nursing care for the prevention of complications. Therefore, nurses' knowledge and attitudes should regularly be evaluated and supported with in-service training, including up-to-date information regarding nutrition support treatment. Making up the knowledge deficiencies of nurses with in-service

training will increase the quality of care in patients receiving nutrition support.

Relevance to Clinical Practice

Understanding of nurses' knowledge level and attitudes on nutrition, will inform the development

of strategies to in-service training. At the same time, the health care quality can improve with in-service training activities.

Conflicts of Interest

We declare that we have no conflicts of interest.

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