RESEARCH ARTICLE

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Effectiveness of Palliative Care Workers in Patient Nutrition

ABSTRACT

Objective: It is important to evaluate the nutrition of patients in palliative care centers. Most patients are unrecognized and lacking treatment, as there is no consensus on ways to scan, diagnose, treat and follow the malnutrition, and the lack of adequate awareness and training of healthcare professionals. This study aims to evaluate the approaches and awareness of healthcare professionals in Turkey who support nutrition in Palliative Care Centers.

Methods: A survey, prepared by researchers, conducted to assess the effectiveness of healthcare professionals in patient nutrition, was conducted on a virtual basis in all healthcare professionals who were fully employed, accessible and volunteered with palliative care patients. The data was evaluated through descriptive and analyzing statistical methods.

Results: The average age of the 105 medical professionals who participated in our study was 36.4±9.3 (25-59), of whom 68 (64.8%) were women and 37 (35.2%) were men. Sixty-seven (63.8%) of the participants, most of whom were physicians, were specialists, 30 (28.6%) were assistants and general practitioners, and 8 (7.6%) were nurses. When asked how many of their patients they started feding products, 38 people (36.2%) said, with 41-60%. If you think you've got enough recognition of nutritional content, there were 28 people who said yes (26.7%), 30 people who said no (28.6%), and 47 people (44.8%) who said sometimes. When asked what they considered the most when planning a feeding product, 95 people (90.5%) said that they cared about the patient's request, compared to the calories and content of the product.

Conclusions: Our study found that participants were largely absent from knowledge and awareness, and observed differences in patient attitudes. Most participants require neutral education and continuity in order to have awareness.

Keywords: Palliative Care, Nutrition, Advanced Cancer.

Palyatif Bakım Çalışanlarının Hasta Beslenmesindeki Etkinliği

ÖZET

Amaç: Palyatif bakım merkezlerinde hastaların beslenmesinin değerlendirilmesi önemlidir. Malnütrisyonun taranması, teşhis edilmesi, tedavi edilmesi ve takip edilmesinin yolları konusunda fikir birliğinin olmaması, sağlık profesyonellerinin farkındalıklarının ve eğitimlerinin eksikliği nedeniyle çoğu hasta tanınmamaktadır ve tedaviden yoksundur. Bu çalışma, Türkiye'de palyatif bakım merkezlerinde hastaların beslenmeyi destekleyen sağlık çalışanlarının yaklaşımlarını ve farkındalıklarını değerlendirmeyi amaçlamaktadır.

Gereç ve Yöntem: Sağlık profesyonellerinin hasta beslenmesindeki etkinliğini değerlendirmek için araştırmacılar tarafından hazırlanan anket, palyatif bakım hastaları ile çalışan, erişilebilir ve gönüllü olan tüm sağlık profesyonellerine sanal ortamda uygulandı. Veriler tanımlayıcı ve analiz edici istatistiksel yöntemlerle değerlendirildi.

Bulgular: Çalışmamıza katılan 105 tıp profesyonelinin yaş ortalaması 36,4±9,3 (25-59) olup, 68'i (%64,8) kadın, 37'si (%35,2) erkekti. Çoğunluğu hekim olan katılımcıların 67'si (%63,8) uzman, 30'u (%28,6) asistan ve pratisyen hekim ve 8'i (%7,6) hemşiredir. Beslenme ürününü kendileri başladıkları hasta sayıları sorulduğunda 38 kişi (%36,2) %41-60 oranında yanıt verdi. Besin içeriği konusunda ürünleri yeterince tanındığınızı düşünüyor musunuz ? sorusuna evet diyen 28 kişi (%26,7), hayır diyen 30 kişi (%28,6) ve bazen diyen 47 kişi (%44,8) vardı. Bir beslenme ürünü planlarken en çok neyi düşündükleri sorulduğunda 95 kişi (%90,5) ürünün kalori ve içeriğine kıyasla hastanın isteğini önemsediklerini söyledi.

Sonuç: Çalışmamız, katılımcıların büyük ölçüde bilgi ve farkındalık açısından eksiklerinin olduğunu ve hasta tutumlarında farklılıklar yaşandığını göstermiştir. Katılımcıların çoğu farkındalığın olması için nütrisyon eğitimine ve devamlılığına ihtiyaç duymaktadır.

Anahtar Kelimeler: Palyatif Bakım, Beslenme, İleri Kanser.

INTRODUCTION

Palliative care is an approach that improves the quality of life for patients and their families of patients who face life-threatening illnesses through early detection and effective prevention or remediation of all physical, psychosocial and mental problems, particularly pain (1,2). In palliative care; it is intended to improve the quality of life of patients and their relatives at all times, and to try to ensure better and more peaceful death, which is defined as good mortality to those who enter the terminal period. Palliative care services worldwide are available in a hospital environment, in a home environment, or in hospitals.

Malnutrition is the case in which systemic, metabolic, and mental functional impairments occur by taking macro and micro-nutrient elements less or more than necessary. The diagnosis is made by a comprehensive investigation that includes the patient's anamnesis, history, physical examination, anthropometric and functional measurements, hematological and biochemical markers, and imaging methods. In palliative care patients malnutrition is as important a problem as infection, head injury, and organ failure. Malnutrition rates are reported in the elderly 50-70%, in the neurologic diseases 55-65%, in those with respiratory system diseases 40-50%, in those with inflammatory bowel disease 60-80%, and in those with cancer 65-85% (1). Nutrition approaches in cancer patients vary depending on whether the patient is under oncological treatment or not. Nutrition support syndications and methods are evaluated and determined by the stage of cancer disease, the clinical condition of the patient and the expectation of survival. If patients are under active oncological treatment, diet approaches can increase their tolerance of treatment while maintaining a general condition of the patient (2). Even patients who undergo palliative chemotherapy in advanced cancers can improve their quality of life and contribute to the treatment process. The main purpose of diet approaches in patients with an inactive oncological condition is to prevent premature deaths due to malnutrition and improve quality of life (2). Nutrition support in these patients should be evaluated based on the patient's nutrition level, habits, expectations, and socioeconomic factors. Some of these patients are in a group with severe anorexia, difficulty swallowing, chronic intestinal obstructions (ileus), or lack of oral intake. In terms of maintaining bowel function, in this group of patients, tube feeding methods are the primary option, but with different syndications, parenteral neutralization is also an important part of the support treatment. If the gastrointestinal system is functional, it must always be the first choice as the method to cause more physiological and less complications (3).

As the terminal approaches the term for advanced cancer patients with palliative care, it should be discussed that full nutritional support increases the quality of life due to the lack of treatment of the disease. In the approaches of American oncology guides, palliative care is recommended within 8 weeks of diagnosis for patients who are in the advanced stage or in the forward stage at the time of diagnosis(1). Over 50% of oncology patients have a high incidence of neutral symptoms such as nausea, rapid saturation, and taste changes. In peritoneal attitudes, colorectal and over cancers, retroperitoneal sarcomas can show similar symptoms due to bowel obstructions. Chronic repetitive bowel obstructions and total parenteral neutralization to provide needed nutritional support and relieve symptoms when intestines are not functioning. Parenteral neutralization practices may not affect tumor progression in cases of induction, but may prevent premature mortality due to more malnutrition. Therefore, it is important to detect the malnutrition by screening tests before it reaches the irreversible stage, and to be able to provide nutrition support.

For palliative care patients, the nutrition treatment must be individually adjusted and shaped according to the patient's condition. Malnutrition risk is known to decrease hospitalizations and complications with proper nutrition treatment in patients with high malnutrition or malnutrition (4). A multidisciplinary team approach is important in palliative maintenance services. At the center of this team are close to patients and patients. In general, the world's palliative care team members include doctors, nurses, psychologists, dietitians, physiotherapists, pharmacists, clergy and social workers. In addition, doctors who specialize in other areas of the patient's needs are included (5). In our country, the Ministry of Health has stated that the primary care team should include doctors, nurses, social workers, dieticians and psychologists in the palliative care team (1). For palliative care support to be properly provided, it is necessary to have a good team organization, to have effective collaboration between institutions and disciplines, to train with regular intervals of people, patients, and patient relatives. The choices and decisions of the patient and his family must be respected. What patient needs in-patient support should be evaluated. This study aims to evaluate the methods and patient approaches of healthcare professionals in palliative care and nutritional support..

MATERIAL AND METHODS

Our study is a cross-sectional descriptive survey study. Firstly, after being given permission from the ethics board of the Tepecik Research Hospital at the SBU Izmir Medical School, the pediatric teaching hospital, the assessment of the patient nutrition activities of healthcare professionals with 22 questions was done on a virtual basis with all medical staff members who were working, accessible and volunteered with

palliative care patients. The survey questioned people's social and demographic characteristics, as well as their approach to nutritional support for their patients while working in palliative care services. The identifier and analyzer were evaluated by statistical methods. Fisher or Ki-square test and decision tree methods were used for comparisons. The descriptive findings are presented as mean, standard deviation and frequency distribution number and percentage. Pearson Ki-kare was tested for categorical variables within independent groups.

The CHAID (Chi-squared Automatic Interaction Detection) analysis was performed to classify the occupational group (specialist, assistant and practitioner, nurse) of the participants. CHAID analysis is a method of subgrouping the specified variable (main node) into subgroups of importance according to categories that best describe it.

The selected category is divided into groups by the variable ki-squared test. The division of subgroups is determined by the Bonferroni correction and the p-value calculated. The decision tree has been created based on the criteria of $p<0.05$, the maximum number of levels for CHAID analysis is 3, the number of decision nodes is 10, and the number of terminal nodes is 5. The Statistical significance value of this work has been assumed to be $p<0.05$. The research data was evaluated through the SPSS 23.0 statistical packet program.

RESULTS

The average age of the 105 medical professionals who participated in our study was 36.4±9.3 (25-59), of whom 68 (64.8%) were women and 37 (35.2%) were men. Sixty-seven (63.8%) of the mostly physician participants were specialists, 30 (28.6%) were assistants and general practitioners, and 8 (7.6%) were nutritional nurses. In terms of majors, the highest number of participants were 35 (33.3%), the primary care physician, 34 (32.4%) and the other group as specified (Table 1).

Table 1. Distribution of majors

	Number (N:105)
Practitioner	7
Family Physician	35
Breast Disease Specialist	3
Anesthesiologist	5
Pediatrician	2
Internal Medicine Specialist	3
Oncologist	12
Nurse	4
Others	34

When we looked at the palliative care centers where they worked, the vast majority worked with 79 people, 75.2 percent, in the Palliative Care Centers of the Education Research Hospitals (Table 2).

Table 2. Attendees work in centers

	Number (N:105)	%
Palliative Care Service at the State Hospital	11	10.5
Palliative Care Service at the Education Research Hospital	79	75.2
Palliative Care Service at the University Hospital	10	9.5
Private Hospital or Palliative Care Center	5	4.8

One of the first responses to questions raised by researchers relating to nutrition for patients in attendance services was how much nutrition they started. The maximum response was 41-60% with 38 (36.2%) (Table 3).

Table 3. Rate of feeding product initialization due to patient's malnutrition

	Number (N:105)	%
5-20%	10	9.5
21-40%	11	10.5
41-60%	38	36.2
61-80%	23	21.9
81% and above	23	21.9

Do you talk to your patients for the purpose of informing them about their products at the startup of the feeding product? When asked, 78 people (74.3%) said yes, while others said no, no time, and sometimes I speak. When asked if you think you know nutritional goods well enough, it was 28 people (26.7%) who said yes, 30 people (28.6%) who said no, and 47 people (44.8%) who said yes. Patients who prefer to do their own diet are 38 (36.2%), while 54 (51.4%) respond to patients. Asked 83 people (79 percent) who say yes 11 people (10.5) sometimes, it turns out that the majority can get that kind of support because they want to know how much nutritionist support they can get in the places they work.

Participants were highly likely to warn and educate patients about the risk of aspiration during oral or enteral feeding (84.8%)

What would you recommend for a cancer patient to have calories and liquids at loss of appetite and thirst? Our question was an important one. The maximum response was that 54 people (51.4%) gave parenteral or enteral tubes. Other responders said they had received support from dieticians or experts he worked with (Table 4).

Table 4. Suggestion of calories and fluid intake in advanced loss of appetite and thirst in cancer patients

	Number (N:105)	%
I insist on standard nutrition and fluid intake recommendations	28	26.7
I'd just recommend that he get as much as he can	15	14.3
I try to feed it with parenteral or enteral tubes	54	51.4
Other	8	7.6

Does ethical dilemmas or the reaction of the patient's relatives force you to decide on a terminal-era patient feeding plan? The question is one of the most difficult questions that palliative care decides to feed. 69 (65.7%) of respondents said yes or sometimes.

The proportion of those who recommended probiotics as a supportive product for their patients was 42.9% with 45 people, and the proportion who recommended immunosuppression such as vitamins, zinc and arginine was highest with 60 people, or 57.1%. The number of medics who recommended phytotherapy to their patients was 16 (15.2%) while the number who did not was 89 (84.8%) (Table 5).

Table 5. Patient support product preferences

Would you recommend probiotics as a supporting product?	**Number (N:105)**	**%**
Yes, I do	45	42.9
No, no	23	21.9
Sometimes	37	35.2
Do you recommend immunocurative products such as vitamins, zinc, argias, etc?	**Number (N:105)**	**%**
Yes, I do	60	57.1
No, no	10	9.5
Sometimes	35	33.3
Do you recommend any physiotherapy?	**Number (N:105)**	**%**
Yes, I do	16	15.2
No, no	89	84.8

When asked what they considered the most when planning a feeding product, 95 people (90.5%) said that they cared about the calories and content of the product, while 9 people (8.6%) cared about the patient's request.

When planning feeding methods such as PEG/PEJ, are you having trouble performing the procedure or managing the process afterwards? 25 people (23.8%) answered yes to our question.

66 (62.9%) of patients received support from home health care in nutrition, inspection, treatment and follow-up. Do you think you need nutrition training? 80 people (76.2%) answered yes to our question.

The rate of considering using tele-medicine in dietary follow-up during the pandemic was predominantly no with 75 people (71.4%).

Have your nutrition proposals changed since the pandemic? And when we said, please indicate, we found that vitamin C and vitamin D, hydration proposals were increasing.

When we compared and grouped the answers, we found the value of p in four of our questions in the form of Specialist Physician or Practitioner. Do you plan your own patient nutrition, and those who answered no to our question made sense to the resident and practitioner physicians (p=0.004). If you are familiar with nutritional products as context, the yes answer makes sense for expert physicians (p<0.001). When planning feeding methods such as PEG/PEJ, are you having trouble performing the procedure or managing the process afterwards? the answer to the no question proved to be relevant to specialist physicians (p=0.046). Do you think you need nutrition training? The no answer to his question was meaningful in the direction of specialist physicians (p=0.001) (Table 6).

Table 6. Comparing answers to professional groups

Question 1 -Do you plan your own patient nutrition?				
	Expert	Assistant and Practitioner	Nurse	P
Yes	33(86.8)	3(7.9)	2(5.3)	
No	5(38.5)	6(46.2)	2(15.4)	0.004
Sometimes(by Patient)	29(53.7)	21(38.9)	4(7.4)	
Question 2 - Do you feel you are familiar enough with nutrition products as content?				
	Expert	**Assistant and Practitioner**	**Nurse**	**P**
Yes, I do	21(75)	1(3.6)	6(21.4)	<0.001
No, no	14(46.7)	16(53.3)	0(0)	
Some of them	32(68.1)	13(27.7)	2(4.3)	
Question 3-When you plan nutrition methods such as PEG/PEJ, do you have difficulty getting the procedure done or then managing the process?				
	Expert	**Assistant and Practitioner**	**Nurse**	**P**
Yes	15(60)	10(40)	0(0)	
No	23(76.7)	3(10)	4(13.3)	0.046
Sometimes	29(58)	17(34)	4(8)	
Question 4 - Do you think you need training support for cancer feeding?				
	Expert	**Assistant and Practitioner**	**Nurse**	**P**
Yes	46(0.575)	30(0.375)	4(0.05)	
No	21(0.84)	0(0)	4(0.16)	0.001

Assessed by the classification of professional groups; the majority of people who respond yes to nutrition product recognition (n=28, 26.7%) who say they plan their diet (n=19, 90.5%) are physicians, and sometimes the majority of the professions who respond to no are nurses (n=4, 57.1%), which is statistically significant (p=0,011). Some of them may be identified by their nutritional content, and by no means, the group (n=77, 73.7%) is 65 people who have responded yes or sometimes to their patient plans. The majority of physicians who respond to the questions of sufficient recognition of nutritional products as content have been identified as specialist physicians (n=31, 72.1%), while the majority of those who answer no are residents and practitioners (n=12, 54.5%) (p=0,035). Based on the professional classification performance of the decision tree, the proper classification performance was found to be 67.6%, when the specialist physician was 82.1%, the nurse was 50.0%, the assistant and the general practitioner were 40.0%.

DISCUSSION

Palliative care; Cancer is the field needed in different processes of life in diseases that go with cardiovascular diseases, diabetes, chronic lung, kidney, neurological diseases, and HIV/AIDS. According to statistics from the General Directorate of Public Hospitals at the Ministry of Health, there are 383 palliative care centers in 81 provinces and 5,091 beds in 383 public hospitals in our country. The vast majority of the 105 health workers who participated in our study (75.2%) worked in Palliative Care Centers of Educational Research Hospitals. In palliative care, which requires a multidisciplinary study, 63.8% of our participants were attending physicians, 28.6% were assistants and practitioners, and 7.6% were nutritional nurses. In terms of majors, the largest number of participants were 35 (33.3%), the family physician, and 34 (32.4%), among others.

One-third of patients admitted to palliative care are cancer patients and two-thirds are people with organ failure, infection, neurological illness. Dietary support in cancer patients should be scanned during treatment and follow-up, and it is recommended to start in case of malnutrition (6). The gastrointestinal system is the most physiological way of feeding, and if there are no problems with its operation, the primary enteral feeding path must be preferred. Oral nutrition support (OBD) products include products such as additional meals or snacks to complete nutrition deficiencies for patients at risk of nutrition. Studies have shown in literature to evaluate the effectiveness of OBD use that weight gain and body mass index increase in patients applying OBD is better than those without OBD (5). In our study, the group with the highest proportion of people to start a nutritional product support was a group with 41 to 60 percent of them. 74.3% said they had informed the patient at the start of the working nutrition product. Informing a patient is important for building trust and maintaining product usage.

When asked if you thought you knew nutritional goods well enough, the yes were 26.7 percent. Patients who prefer to do their own dietary planning are 36.2%, while 51.4% have responded to the patient. Respondents were thought to have significantly lower levels of knowledge and awareness regarding the neutral products.

What would you recommend for a cancer patient to have calories and liquids at loss of appetite and thirst? 51.4% of our questions would be parenteral or enteral tube. Other responders said they had received support from dieticians or experts he worked with. In fact, it is advisable that in the terminal period, support for calories and fluid intake is not enforced due to the expected survival of the patient. These and similar ethical dilemmas can be experienced. In our study, do the ethical problems of the participants or the reactions of their relatives force you to make the decision about a nutrition plan in terminally ill patients? 65.7% of respondents answered yes or sometimes. Not eating and drinking is not the cause of death, but part of the normal process of death. Families often get stressed when their loved ones refuse to eat, which is understandable. Families demand artificial nutrition and hydration with false hope, so that they feel that their longevity will improve, their functional status will improve, their comfort and quality of life will increase. In acute cases, these attempts play a significant role in healing, but not in recent dementia, stroke, and terminal-term cancer patients. Reducing fluid support in the near-death patient decreases pulmonary and peripheral edema, acid (7). It is important that palliative care workers be able to tell and understand the role and value of artificial nutrition and hydration in the family (7).

In our study, the rate of recommending immuno nutrition products such as vitamins, zinc, arginine, glutamine was quite high with 60 people (57.1%) who said yes and 45 people (42.9%) who said yes to probiotic products as support. However, 16 (15.2%) who recommended phytotherapy for their patients were extremely small. The effect of arginine and nucleotides in the form of enteral nutrition formulas is studied to support immunization in patients who undergo surgery and radiotherapy. Vitamin D deficiency is very common in cancer patients (8). This deficiency was associated with cancer injection and prognosis (6-8), and a meta-analysis of the randomized controlled study by Bolland and his colleagues showed that the practice of vitamin D±calcium decreased the incidence of patients on skeletal or non-skeletal events by a maximum of 15%. However, it is not yet known whether the use of vitamin D supplements to normalize vitamin D levels should improve prognosis in cancer patients (9). A prospective study of 4459 patients with early

prostate cancer reported a 2.6-fold increase in mortality rates for men who have received a dose of selenium supplement of over 140 mg/day (10). However, it is important to note that supplements of vitamins and trace elements are mandatory if the patient's parenteral nutrition is to last more than a week (11). A study by Talvas and his colleagues also shown that immune cell response increases when arginin is added to enteral nutrition in cancer patients undergoing radiotherapy (12). When the results were analyzed in the review of 15 prospective and retrospective studies that investigated glutamine support in oral mucosia developing in cancer patients undergoing radiotherapy, chemotherapy or chemo-radiotherapy, it was observed that glutamine had positive effects on mucositis in 11 studies, while 4 studies showed no effect (13).

When you plan feeding methods such as Percutan Endoscopic Gastrostomy (PEG)/Percutan Endoscopic Jejunostomy (PEJ), are you having trouble performing the procedure or managing the process afterwards? 25 people (23.8%) answered yes to our question. It is understood that the majority has received support, as 83 individuals (79%) have said yes. In enteral nutrition, oral, gastric, percutaneous and surgical means are used (13,14). In the selection of these ways, it is necessary to take into account indications, contraindications and complications related to the application of these means, as well as good evaluation of the patient (14). Oral nutrition is the first choice in the patient who can take oral and has a good swallowing function. In cases where the oral pathway cannot be used for longer periods of time, more permanent methods are applied. It is indicated in patients who will not be able to switch to oral nutrition within two or three weeks. In our study, we found that healthcare professionals were able to receive an average of support in starting tube feeding for their patients.

Do you think you need nutrition training? 80 people (76.2) answered yes to our question. Meier and Mark. in their study, individuals with advanced life-threatening illnesses and families complained that the quality of care available to them was inadequate and were not satisfied with the service offered (15). In the world, palliative care education is quite different. Palliative care has been recognized as a separate specialty in countries such as the United States, the United Kingdom, Canada and Australia (16). Palliative care is part of clinical education in nursing education in Israel and Jordan (17). Trainings for palliative care workers are refreshable and are recurring on a regular basis; there should be palliative care and training that includes what patients need (18).

When we grouped the answers into Specialist Physician-Assistant or Practitioner-Nurse, we found some meaningfulness in our questions. Do you self-organize your patient nutrition plans, and those who answer no to our question make sense to residents and general practitioners, as measured by the classification of professional groups. The majority of people who respond yes to nutrition product recognition (n=28, 26.7%) who say that they make the dietary plan themselves (n=19, 90.5%) are physicians, and sometimes the majority of those who respond to no are nurses (n=4, 57.1%), which is statistically significant. The group (n=77, 73.7%) who responded in favor of recognizing some of their nutritional content, and 65 people who responded yes or sometimes to the status of preparing sick plans. The majority of physicians who respond to the 65 nutritional questions of adequate recognition as content are qualified physicians (n=31, 72.1%), while the majority of those who answer no are residents and practitioners (n=12, 54.5%).

Based on the professional classification performance of the decision tree, the correct classification performance was found to be 67.6%, with the specialist physician being 82.1%, nurse 50%, assistant and general practitioner 40%. It has been observed that specialist physicians perform professionally in terms of nutrition at a higher rate.

CONCLUSIONS

Awareness and knowledge of patient nutrition may not be enough. Therefore, the need for education arises. . To increase the awareness and awareness of healthcare professionals, conducting simultaneous training for medical professionals in the multidisciplinary team can lead to significant improvements. emergingPalliative care is one of the most common areas of end-of-life care ethical dilemmas. In this respect, ethical decisions can be hard to make Solving these problems should focus on legislative regulation and support from ethical boards. Trainings, planning, support, treatments should be patient- centered and designed to improve patient life comfort.

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