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Assessment of the nutritional awareness and basic knowledge levels of physicians working in the surgery clinic

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ABSTRACT

Objective: The clinical importance of nutritional awareness and assessment has become evident over the years. This study aimed to investigate the nutritional attitudes, personal perceptions and behaviors, and basic knowledge levels of physicians working in the General Surgery Clinic, University of Health Sciences.

Methods: A total of 37 physicians working in the General Surgery Clinic, University of Health Sciences were included in the study. A previously evaluated and proven Nutritional Questionnaire and Mini Knowledge Assessment Exam were applied to the participants. With the questionnaire, previous nutritional trainings, clinical nutritional awareness, personal nutritional competence, practice, and nutritional patient education were assessed. After the questionnaire, a multiple choice mini test was applied to evaluate basic nutritional clinical knowledge.

Results: The study sample included 37 physicians, including 19 (51.4%) specialist physicians and 18 (48.6%) residents working in the General Surgery Clinic, where nutritional evaluation was performed. It was observed that the participants highly approved of nutritional awareness and importance factors. Considering the participants' application of nutritional parameters in the clinic, weak application was observed in 6 physicians (16.2%), moderate application in 25 physicians (67.6%), and strong application in 6 physicians (16.2%). In the results of the mini test applied for the knowledge evaluation of physicians, very low level of knowledge, low level of knowledge, medium level of knowledge, good level of knowledge, and very good level of knowledge were detected in 1 (2.7%), 1 (2.7%), 3 (8.1%), 19 (51.4%), and 13 (35.1%) physicians, respectively. Good and very good knowledge levels were observed in a total of 32 (85.5%) general surgery physicians. It was observed that the only factor affecting the clinical practice of nutritional parameters by the participants was not feeling sufficient and self-confident in terms of nutrition ($p=0.04$). In the comparison of specialist physicians and residents, no statistically significant difference was observed in terms of nutritional education status, nutritional questionnaire opinions, and nutritional knowledge levels ($p>0.05$).

Conclusion: Participants basically know the concept of nutrition and are aware of its importance, but they are of the opinion that there is a sense of personal inadequacy and lack of self-confidence in clinical practice.

Keywords: General surgery, nutrition, nutrition awareness, nutrition questionnaire

Introduction

With nutritional education gaining value day by day and providing awareness about it in the field of health, it gains the importance it deserves. It can be accepted that there is a relationship between nutrition and mortality, and the most regulating factor in this association is the physician (1, 2). Although there has been a positive development over the years in medical faculties where physicians receive their professional education, inadequacies in nutritional education have been reported (3, 4). For this reason, clinical nutritional awareness, perception of personal competence, practice habits, and basic clinical knowledge of the physicians working in the General Surgery Clinic, where we work by prioritizing the educational factors, were investigated. Based on the results, we aimed to generate positive clinical contributions and development of educational factors.

Materials and Methods

The study was approved by the Ethics Committee of the University of Health Sciences Dışkapı Training and Research Hospital (Decision date: February 26, 2019; decision no. 60/11). A total of 19 specialist physicians and 18 residents

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Table 1. Distribution of survey questions evaluating nutritional views of physicians working in general surgery clinic	
Content of questions	**Number of questions**
Determination of nutritional education status	2
Nutritional disease status in the family	1
Value and awareness of nutrition subject	3
Evaluation of the nutritional approach to the patient	6
Nutritional knowledge status opinion of physicians	1
Behavior assessment in patients with nutritional support	2
Opinion of the need for continuous education for nutritional behavior change	1
Opinion of the beginning of nutritional change with health problems in patients	1
Nutritional change opinion in patients with physician's personal effort	3
Assessment of unnecessary preventive health service and physician counseling	7
Evaluation of the physician's self-confidence and self-sufficiency	22
Physician's application status of nutrition parameters in clinic	18
Total	67

in the General Surgery Clinic of a Training and Research Hospital affiliated with the University of Health Sciences were included in the study. The participants were administered a previously evaluated and proven Nutritional Questionnaire and Mini Knowledge Assessment Exam (5). With the questionnaire, previous nutritional trainings and their importance, clinical nutritional awareness, personal nutritional competence, practice, and nutritional patient education were questioned. After the questionnaire, a multiple choice mini test was applied to evaluate basic nutritional clinical knowledge. The questionnaire was composed of 67 questions, compiled by revising the previously applied forms, and the mini test was composed of 17 questions. The distribution of questions in the evaluation of the questionnaire is given in Table 1. The physician's application of nutritional parameters in clinical practice was classified as weak application (0–6 yes answers in 18 questions), moderate application (7–12 yes answers in 18 questions), or strong application (13-18 yes in 18 questions). The results of the 17-item mini test that was administered for evaluating the knowledge of physicians were assessed as very low level of knowledge (0–4 correct), low level of knowledge (5–8 correct), medium level of knowledge (9–11 correct), good level of knowledge (12–14 correct), and very good level of knowledge (15–17 correct). In the other questionnaire questions, the opinions of the physicians were evaluated in the categories of strongly disagree (1), disagree (2), no idea and undecided (3), agree (4), and strongly agree (5). Average values of the questionnaire results of nutritional parameters were taken in the evaluation of multiple questions.

Main Points

- Nutrition education is a cornerstone of medical training in Surgical Clinics.
- General Surgeons are mainly aware of the nutrition term and its importance.
- Although clinicians have basic nutrition knowledge, there may be an insufficiency in clinical practice.

Statistical analysis

Statistical Package for the Social Sciences 16.0 (SPSS Inc., Chicago, IL, USA) software was used for statistical analysis of the data. When comparing categorical data between groups, the chi-square test was used and the results were presented as the number of cases and percentage (%). Whether numerical data displayed normal distribution or not was analyzed by using the Kolmogorov-Smirnov test. The distribution of numerical data conforming to the normal distribution was presented as mean ± standard deviation. The Kruskal-Wallis Test was used to compare the clinical practice of nutritional parameters with nonparametric data between the groups. Differences with a P-value <0.05 were considered significant.

Results

For 37 physicians, including 19 (51.4%) specialist physicians and 18 (48.6%) residents working in the General Sur-

Table 2. Nutritional education history of physicians working in general surgery clinic and application status of nutritional parameters in clinic and nutritional mini test results	
Nutrition Associated Items	**Total, n=37**
Nutritional education in Faculty of Medicine, n (%)	10 (27%)
Elective/voluntary nutritional education, n (%)	1 (2.7%)
Nutritional disease in family, n (%)	11 (29.7%)
Application rate of nutrition parameters in clinic, %	51.8±20.8
Strong clinical application frequency of nutrition parameters, n (%)	6 (16.2%)
Mini nutritional test result	78±16
Very knowledgeable (n=13) and knowledgeable (n=19) nutritional knowledge level, n (%)	32 (86.5%)

gery Clinic, where nutritional evaluation was performed, nutritional education status, presence of nutritional disease in their family, practice of nutritional parameters in the clinic, and nutritional mini test results are shown in Table 2. Physician's application status of nutritional parameters in clinic was observed as weak application in 6 physicians (16.2%), moderate application in 25 physicians (67.6%), and strong application in 6 physicians (16.2%). For the results of the 17-item mini test applied to the physicians for knowledge assessment, very low level of knowledge, low level of knowledge, medium level of knowledge, good level of knowledge, and very good level of knowledge were observed in 1 (2.7%), 1 (2.7%), 3 (8.1%), 19 (51.4%), and 13 (35.1%) physicians, respectively. Good and very good knowledge levels were observed in a total of 32 (85.5%) general surgery physicians.

Survey opinions about clinical nutritional awareness, nutritional positive approach, opinion of good knowledge level in physicians in terms of nutrition, opinion of patient behavior change with nutritional support, changes occurring with illness, contribution of periodic patient education, personal nutritional competence, nutritional self-confidence, patient approach, and nutritional patient education are given in Table 3 under 9 main headings.

The educational backgrounds, nutritional survey results, and knowledge evaluation test results of the physicians participating in the study, which affect the application status of nutritional parameters in the clinic, are given in Table 4. It was observed that the only factor affecting the poor application of nutritional parameters in the clinic by the physicians was feeling nutritionally inadequate and lack of nutritional self-confidence (p=0.04).

In the comparison of specialist physicians and residents, no statistically significant difference was observed in terms of nutritional education status, nutritional illness status in the family, clinical nutritional awareness, nutritional positive approach, opinion of good knowledge level in physicians in terms of nutrition, opinion of patient behavior change with nutritional support, changes occurring with illness, contribution of periodic patient education, personal nutritional competence, nutritional self-confidence, clinical application of nutritional parameters, and nutritional mini test results (p>0.05).

Discussion

Diabetes, coronary artery disease, hypertension, certain cancers, and, most importantly, obesity, which is the result of malnutrition, are nutrition-related diseases and are the leading causes of death (1). Patients consider physicians as the individuals who can help most in nutrition and give the most accurate nutritional advice to regain their health in case of illness (2). Despite the general awareness of physicians about nutrition, problems may occur because of time constraints, excessive workload, difficulties in patient compliance, and deficiencies in sustainable education in nutrition. With nutritional education gaining value day by day and providing awareness about it in the field of health, it gains the importance it deserves. Despite the positive development in medical faculties over the years, inadequacies in nutritional education have been reported (4, 5). It was observed that the physicians working in the General Surgery Clinic did not receive sufficient nutritional education in their return to medical faculty education and in their later professional life. Necessary importance should be given to nutritional education in the curriculum of the medical faculty and in-service trainings later.

The Nutritional Questionnaire and Mini Knowledge Assessment Exam, which are known to be reliable and previously used in other studies, were used in the study (5). With the questionnaire, nutritional practice status of the physician, nutritional education status, and awareness,

Table 3. The clinical nutritional awareness, personal nutritional competence, nutritional self-confidence, patient approach, and nutritional patient education of General Surgeons

Specialist physician and residents, n=37(%)					
Topic of questionnaire	**Strongly disagree**	**Disagree**	**No opinion/ undecided**	**Agree**	**Strongly agree**
Nutritional awareness	0 (0%)	1 (2.7%)	4 (10.8%)	17 (45.9%)	15 (40.5%)
Nutritional positive approach	0 (11%)	1 (2.7%)	12 (32.4%)	22 (52.5%)	2 (5.4%)
Nutritional good knowledge level opinion of physicians	1 (2.7%)	3 (8.1%)	14 (37.8%)	12 (32.4%)	7 (18.9%)
Change in patients' behaviors with nutritional support	0 (0%)	1 (2.7%)	11 (29.7%)	24 (64.9%)	1 (2.7%)
Requirement of continuous education for nutritional behavior change in patients	0 (11%)	3 (8.1%)	16 (43.2%)	15 (40.5%)	3 (8.1%)
Initiation of nutritional change owing to health problems in patients	0 (0%)	4 (10.8%)	7 (18.9%)	16 (43.2%)	10 (27%)
Nutritional change in patients with physician's personal effort	0 (0%)	3 (8.1%)	20 (54.1%)	14 (37.8%)	0 (0%)
Assessment of unnecessary preventive health service and physician counseling	0 (0%)	7 (18.9%)	26 (70.3%)	4 (10.8%)	0 (0%)
Physician's self-confidence and physician's finding himself/herself self-sufficient in nutrition	0 (0%)	9 (24.3%)	19 (51.4%)	9 (24.3%)	0 (0%)

with which the education habits of the patient and this situation may be associated, were questioned. In the same way, similar proven nutritional questionnaires are used to evaluate the general nutritional attitudes of physicians (6). With these questionnaires, it is possible to evaluate the nutritional approaches and practices of physicians. Based on the analysis of the survey results, positive developments can be achieved with theoretical and practical trainings for personal competence perception and development of practice habits. In addition, the tests applied to evaluate basic nutritional clinical knowledge provide information about the nutritional knowledge level of physicians and allow the revision of educational factors.

It has been reported that physicians' nutritional competencies and clinical practice success are associated with the nutritional education they have received (7). Although the level of nutritional knowledge was found at a good level in the clinic where the study was conducted, it is thought that the nutritional competence of the physicians is related to a multifactorial issue. The fact that the good nutritional knowledge of physicians is not reflected in clinical practice is an indicator of this. It has been shown that medical faculty students gain self-confidence in consultations related to nutrition with the help of preventive medicine and nutrition courses (8). Patient-physician relationship–oriented trainings, including this type of clinical knowledge and practical applications, will be useful in gaining self-confidence.

As the positive clinical effect of nutritional support on patients has been demonstrated in studies with high levels of evidence, it is seen that medical faculty education has been brought to the desired levels, especially in developed countries. In a study conducted in our country, the first and last years of the Faculty of Medicine students were compared, and it was observed that they showed a positive improvement in their nutritional habits and knowledge levels, which was partially attributed to the education provided in the Faculty of Medicine (9). In a survey conducted with the participation of 14 developed Western European countries, satisfactory results were obtained at a rate of nearly 70% in nutritional education in 217 accredited medical faculties (10). In another study, the education given is seen to be

Table 4. Analysis of the factors that may be associated with the status of general surgery physicians' application of nutritional parameters in the clinic	
Application Status of Nutritional Parameters in the Clinic, n=37	
Topic of the questionnaire	**p**
Nutritional education in Faculty of Medicine	0.521
Elective/voluntary nutritional education	1.0
Nutritional disease in the family	1.0
Nutritional awareness	0.255
Nutritional positive approach	0.645
Nutritional good knowledge level opinion of physicians	0.559
Change in patients' behaviors with nutritional support	0.135
Requirement of continuous education for nutritional behavior change in patients	0.707
Initiation of nutritional change owing to health problems in patients	0.542
Nutritional change in patients with physician's personal effort	0.350
Assessment of unnecessary preventive health service and physician counseling	0.291
Physician's self-confidence and physician's finding himself-herself self-sufficient in nutrition	0.04
Physician's nutritional knowledge level	0.448
P<0.05 is given as bold for statistical significance	

insufficient in the evaluation of nutritional education level in 127 accredited American medical faculties (11). When both studies were compared, it was seen that a better nutritional education was given in Western European countries (10). In our study, the lack of nutritional medicine education is observed in both residents and specialist physicians. Approximately 24 hours of education targeted at medical schools in Western European countries should be taken into account in closing this gap.

Conducting this research with the participation of physicians from only one surgical ward seems to be a limitation. A study involving more physicians by including more clinics will be more significant and effective to make healthier analyses.

In conclusion, it is observed among physicians that there are deficiencies in basic and sustainable nutritional education. Participants basically know the concept of nutrition and are aware of its importance, but their sense of personal inadequacy and lack of self-confidence negatively affect clinical practice.

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