

Knowledge Levels and Opinions of Dietitians and Students on Food Supplements

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ABSTRACT

Aim: The aim of this study is to assess the knowledge levels and opinions of dietitians and nutrition and dietetics students residing in the province of Antalya regarding dietary supplements.

Materials and Methods: This descriptive and cross-sectional study was conducted between January and April 2023 with 206 nutrition/dietetics students and dietitians who agreed to participate. A data collection form developed by the researchers based on the literature was used as the data collection tool. Data were collected in person and online via Google Forms.

Results: According to the analysis of the data obtained from the study, no significant difference was found between students and dietitians regarding their sources of information on dietary supplements, their use of dietary supplements, methods of procurement, types of dietary supplements used, indications for use, and dietary supplements they recommended.

Conclusion: In conclusion, this study found that dietitians use and recommend dietary supplements more frequently than nutrition and dietetics students.

Key Words: Dietary Supplements, Nutritional Status, Nutrition Professionals

1. INTRODUCTION

From a public health perspective, regular, adequate, and balanced nutrition is of great importance. Healthy eating can be sustained when a regular, adequate, and balanced diet ensures the proper balance of calories, vitamins, minerals, and water that a person needs. This dietary approach is the foundation for maintaining a healthy life in the long term (1). However, individuals may adopt irregular, inadequate, and unbalanced eating habits depending on factors such as their emotional state,

living conditions, dietary preferences, and the presence of chronic diseases. Additionally, inadequate and unbalanced nutrition can occur due to the components of the foods consumed within individuals' dietary habits (2). Today, people's dietary habits are increasingly changing, and these changes directly affect their health. Methods known by various names, such as traditional medicine, alternative medicine, and complementary medicine, are used in the treatment of many diseases. The most commonly recommended and

used form of these methods in nutritional therapy is dietary supplements (3). For this reason, many people use dietary supplements to protect their health and achieve their goals for a healthy lifestyle. Dietary supplements are supplements used in addition to a healthy diet. Individuals can use dietary supplements to prevent or treat health issues (4). However, it is extremely important to have accurate information about the use of these supplements. Nutrition and dietetics students and dietitians play a significant role in this regard through their knowledge, attitudes, and behaviors. With accurate information, attitudes, and behaviors, the use of dietary supplements can be effectively integrated into nutritional therapy.

This study aims to determine the knowledge levels and opinions of nutrition and dietetics students and dietitians regarding dietary supplements.

2. MATERIALS AND METHODS

2.1. Study Design

This study is a descriptive, cross-sectional research conducted between January and April 2023 with 206 participants, with the aim of evaluating the knowledge, attitudes, and behaviors regarding dietary supplements among dietitians and students in the Department of Nutrition and Dietetics living in the province of Antalya. Prior to the study, participants were informed about the study and their informed consent was obtained.

2.2. Data Collection Instruments

2.2.1. Personal Information Form

It consists of 11 questions regarding participants' age, gender, educational status, self-perceived health, smoking/alcohol habits, chronic disease status, regular exercise habits, number of main and snack meals per day, and meal skipping.

2.2.2. Dietary Supplement Information Form

This form, consisting of 15 questions, was developed based on the literature to assess participants' knowledge, attitudes, and behaviors regarding dietary supplements (5,6).

2.3. Data Collection

Data were collected through face-to-face interviews using a data collection form prepared by the researcher based on the literature, as well as online via Google Forms. Before the implementation, the purpose and method of the study were explained to the participants, and it was clarified that the information collected would be used exclusively for scientific purposes. The administration of the questionnaire lasted approximately 10 minutes.

2.4. Data Analysis

The data were analyzed using SPSS 22.0. Values for categorical data are presented as n and %. The chi-square test was used for statistical comparisons of categorical data. In all tests, statistically significant differences were accepted at a 95% confidence interval for $p < 0.05$ values.

3. RESULT AND DISCUSSION

The demographic characteristics of the study participants are summarized in Table 1. The study sample was predominantly female (91.3%), with a mean age of 25.58 ± 6.05 years. Most participants were dietitians (51.9%), non-smokers (75.7%), non-alcohol users (55.3%), and free of chronic disease (87.4%). Regular physical activity was reported by 44.7%, and 76% rated their health as good. Dietary habits showed that 50.5% consumed three main meals, 58.3% had two snacks daily, and 59.7% skipped meals.

After providing the official definition of dietary supplements, 53.4% reported supplement use, of whom 24.8% used them daily. The majority perceived supplements as beneficial and necessary (87.9%) and reported no side effects (87.4%). Most obtained supplements from pharmacies (91.7%), and 54.4% used multiple supplements concurrently. Quality was the primary purchasing criterion (33.5%), while 55.8% reported being influenced by advertisements (Table 2). A significant difference was observed in supplement use between nutrition and dietetics students and dietitians ($p < 0.05$), whereas perception of benefit showed no difference ($p > 0.05$) (Table 3).

Table 1. Sociodemographic Characteristics and Health Habits of Participants (n=206)

Sociodemographic Characteristics	n	%
Gender		
Female	188	91.3
Male	18	8.7
Education Status		
Student	99	48.1
Dietitian	107	51.9
Smoking Status		
Yes	50	24.3
No	156	75.7
Alcohol Consumption		
Yes	92	44.7
No	114	55.3
Chronic Disease		
Yes	26	12.6
No	180	87.4
Physical Activity		
Yes	92	44.7
No	114	55.3
Perceived Health Status		
Good	157	76.0
Moderate	49	24.0
Main Meals per Day		
2 meals	100	48.5
3 meals	104	50.5
4 meals	2	1.0
Snacks per Day		
1 snack	57	27.7
2 snacks	120	58.2
3 snacks	26	12.6
4 snacks	3	1.5
Skiping Meals		
Yes	123	59.7
No	83	40.3
Total	206	100

Table 2. Data on Dietary Supplement Use Among Participants

Variable	n	%
Dietary Supplement Use		
Yes	110	53.4
No	96	46.6
Frequency of Use		
Once a week	10	4.9
2-5 days/week	39	18.9
Every day	51	24.8
Once a month	8	3.9
Other	2	1.0
Never	96	46.6
Beneficial and necessary		
Yes	181	87.9
No	25	12.1
Side effects		
Yes	26	12.6
No	180	87.4
Source		
Pharmacies	189	91.7
Online	16	7.8
Herbalists	1	0.5
Multiple use		
Yes	112	54.4
No	94	45.6
Factors		
Price	66	32.0
Brand	60	29.1
Quality	69	33.5
Naturalness	6	2.9
Domestic production	1	0.5
Other	4	1.9
Ads influence		
Yes	115	55.8
No	91	44.2
Total	206	100

Table 3. Dietary Supplement Use According to Profession

	Student (n=99)		Dietitian (n=107)		Statistical Analysis
	n	%	n	%	
Dietary Supplement Use					
Yes	39	18.9	71	34.5	$\chi^2=15.021$ $p=.000$
No	60	29.1	36	17.5	
Do you consider supplements beneficial and necessary?					
Yes	86	41.7	95	46.1	$\chi^2=.177$ $p=.831$
No	13	6.3	12	5.8	

χ^2 : Chi-square test, $p<0.05$.

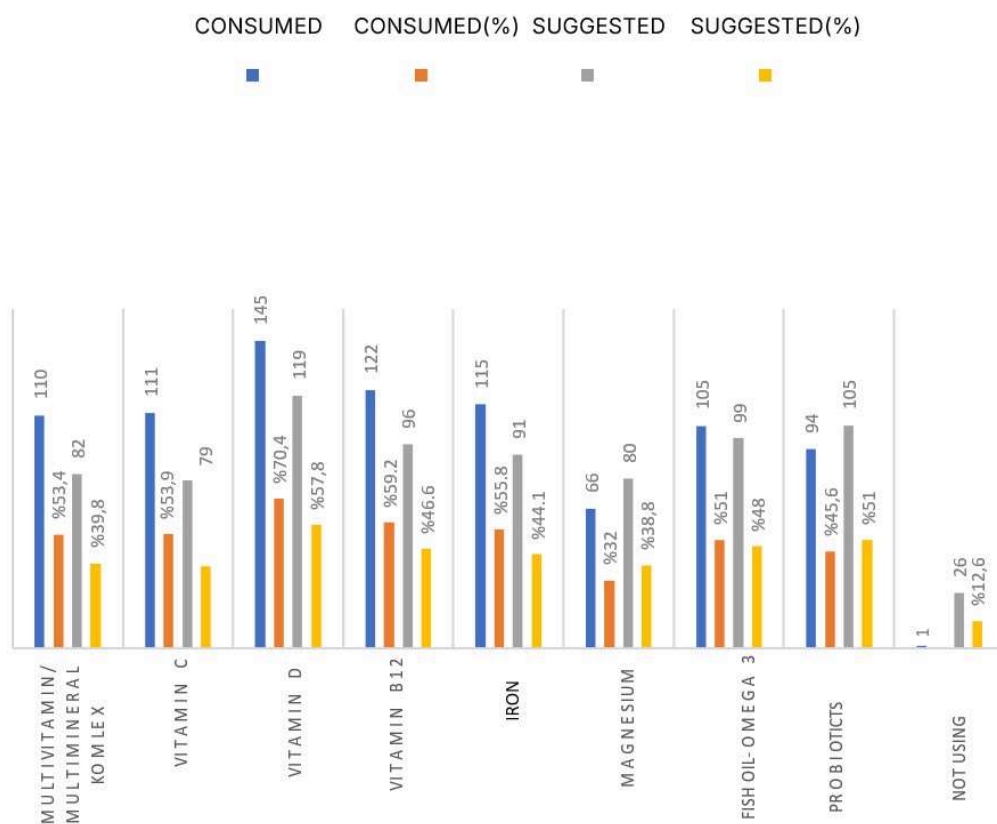


Figure 1. Use and Recommendation Status of Dietary Supplements

Vitamin D (70.4%), vitamin B12 (59.2%), and iron (55.8%) were the most commonly used supplements, while vitamin D, probiotics, and omega-3 were the most frequently recommended (Figure 1). Similar patterns were observed in national data, where vitamin D, vitamin B12, and iron were among the most commonly used supplements (12). However, differences exist across international studies, where multivitamins, antioxidants, and omega-3 products are often more

prevalent (10,11). These variations may be explained by national supplementation policies and public health programs in Türkiye, such as iron and vitamin D support initiatives.

The overall prevalence of supplement use in this study (53.4%) is comparable with findings from the United States (52%) (9) and lower than Denmark (71.2%) (10), but higher than several European countries (8). These differences may reflect

temporal trends, cultural factors, and evolving consumer behavior. Although most participants considered supplements beneficial, this high perception did not fully translate into higher usage rates.

The primary reasons for supplement use were improving or maintaining health (68.4%), strengthening immunity (63.1%), and physician recommendation (48.5%). Similar motivations have been reported in previous studies, particularly immune support, prevention of deficiencies, and general well-being (19–21,24). Likewise, healthcare professionals most frequently recommended supplements for health protection and maintenance, which aligns with the present findings (25).

Overall, vitamin D emerged as the most consistently used and recommended supplement across studies, followed by vitamin B12 and iron. These findings are largely consistent with national literature, whereas discrepancies with European and American studies likely stem from differences in demographic profiles, health policies, and the classification of dietary supplements.

4. CONCLUSION

This study provides insight into the knowledge, attitudes, and practices regarding dietary supplement use among nutrition and dietetics students and registered dietitians. More than half of the participants reported using dietary supplements, and the majority perceived them as beneficial and necessary. Vitamin D, vitamin B₁₂, and iron were the most commonly used supplements, while vitamin D was also the most frequently recommended supplement.

The findings indicate that professional status influences dietary supplement use, although perceptions regarding their benefits are similar among students and practicing dietitians. Participants primarily used and recommended dietary supplements to support general health and strengthen immunity. Considering the widespread use of dietary supplements and the influence of advertisements on purchasing decisions, there is a

need to strengthen evidence-based education regarding dietary supplement use among both students and healthcare professionals. Future studies involving larger and more diverse samples, as well as qualitative research exploring motivations, beliefs, and decision-making processes, would contribute to a deeper understanding of dietary supplement practices.

CRedit authorship contribution statement: AE, CDB: Writing – review & editing, AE, CDB: Writing – original draft, Visualization, Methodology, Investigation, Conceptualization

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Ethical Statement: Permission for the study was obtained from the Burdur Mehmet Akif Ersoy University Ethics Committee for Non-Interventional Research via Decision No. GO 2022/728 dated May 11, 2022, and from the Faculty of Health Sciences at Akdeniz University via Decision No. 395009 dated July 5, 2022. The dietitians and nutrition and dietetics students included in the study were verbally informed and their consent was obtained.

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