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Views on Sustainable Nutrition Among Nutrition and Dietetics Students, Dietitians, and Healthcare Professionals

Beslenme ve Diyetetik Öğrencileri, Diyetisyenler ve Sağlık Profesyonellerinin Sürdürülebilir Beslenme Hakkındaki Görüşleri

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Abstract

Aim: In this study, the views of individuals, dietitians and health professionals who are educated in the field of nutrition and dietetics on sustainable nutrition were evaluated.

Material and Method: This study, which was designed in the survey model, was conducted on 456 individuals, including Nutrition and Dietetics students, dietitians and health professionals. Sociodemographic characteristics, knowledge and attitudes towards sustainable nutrition were questioned.

Results: 34.4% of the participants were nutrition and dietetics students, 13.1% were dietitians and 52.5% were health professionals. The percentage of participants who had previously received education on sustainable nutrition was 36.7%, 26.1% and 2.5% for dietitians, undergraduate students and health professionals, respectively ($p<0.05$). When the level of knowledge about sustainable nutrition was evaluated, 13.3% of dietitians and 3.8% of undergraduate students declared that they had excellent knowledge, while no health professionals declared that they had excellent knowledge (<0.05). The knowledge and approaches of nutrition and dietetics educated individuals about sustainable nutrition, environment and environmental problems, supply and consumption of various foods, and correct information about the products purchased while shopping for food were found to be higher than health professionals ($p<0.05$).

Conclusion: This study shows that students in Nutrition and Dietetics are more knowledgeable about sustainable nutrition compared to healthcare professionals; however, their knowledge is not at sufficient levels. The necessity of expanding education on sustainable nutrition is becoming increasingly apparent.

Keywords: Dietitian, health professional, nutrition and dietetics students, sustainable nutrition

Öz

Amaç: Bu çalışmada, beslenme ve diyetetik alanında eğitim gören bireylerin, diyetisyenlerin ve sağlık profesyonellerinin sürdürülebilir beslenmeye ilişkin görüşleri değerlendirilmiştir.

Gereç ve Yöntem: Tarama modelinde tasarlanan bu çalışma, Beslenme ve Diyetetik öğrencileri, diyetisyenler ve sağlık profesyonelleri olmak üzere 456 kişi üzerinde yürütülmüştür. Bireylerin sosyodemografik özellikleri, sürdürülebilir beslenme konusundaki bilgi ve yaklaşımları sorgulanmıştır.

Bulgular: Katılımcıların %34,4'ü beslenme ve diyetetik öğrencisi, %13,1'i diyetisyen ve %52,5'i sağlık profesyoneliydi. Daha önce sürdürülebilir beslenme konusunda eğitim almış olan katılımcıların yüzdesi diyetisyenler, lisans öğrencileri ve sağlık çalışanları için sırasıyla %36,7, %26,1 ve %2,5'tir ($p<0,05$). Sürdürülebilir beslenme konusundaki bilgi düzeyleri değerlendirildiğinde, diyetisyenlerin %13,3'ü ve lisans öğrencilerinin %3,8'i mükemmel düzeyde bilgi sahibi olduğunu beyan ederken, sağlık profesyonellerinden hiç kimse mükemmel düzeyde bilgi sahibi olduğunu beyan etmemiştir (<0,05). Beslenme ve Diyetetik eğitimi alan bireylerin sürdürülebilir beslenme, çevre ve çevre sorunları, çeşitli gıdaların temini ve tüketimi, gıda alışverişi yaparken satın alınan ürünlerle ilgili doğru bilgilendirme konularında bilgi ve yaklaşımları sağlık çalışanlarına göre daha yüksek bulunmuştur ($p<0,05$).

Sonuç: Bu çalışma, Beslenme ve Diyetetik eğitimi görenlerin sürdürülebilir beslenme konusunda sağlık profesyonellerine göre daha bilgili olduğunu, ancak bu bilgilerin yeterli seviyelerde olmadığı görülmektedir. Sürdürülebilir beslenme eğitiminin yaygınlaştırılmasının gerekliliği giderek daha fazla anlaşılmaktadır.

Anahtar Kelimeler: Beslenme ve diyetetik öğrencileri, diyetisyen, sağlık profesyoneli, sürdürülebilir beslenme

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INTRODUCTION

The rising global population, combined with climate change, threatens our finite energy resources. One approach to addressing this issue is through managing dietary choices, which has led to the development of the concept of sustainable nutrition.[1,2] Sustainable nutrition involves shifting dietary preferences to reduce excessive consumption, adopting healthier eating habits with lower environmental impacts, and minimizing waste in food production systems.[3]

Current food systems not only fail to support the global population's needs and contribute to chronic nutritional diseases but also place undue stress on natural resources. Climate change, environmental degradation, loss of biodiversity, and pollution are driving the need for a more sustainable nutritional framework.[4,5]

Sustainable nutrition relies on effective systems and policies.[6,7] Dietitians, as health professionals, can influence policy and raise awareness about sustainable nutrition. In Turkey, however, dietitians conduct limited research on sustainability. Studies show that dietitians generally possess higher knowledge of sustainable nutrition and emphasize the importance of continuous development in this area.[8-10] Integrating sustainable nutrition into the nutrition and dietetics curriculum is crucial for shaping future strategies.[11,12]

Given the critical importance of sustainable nutrition for healthy eating, it is essential to assess the knowledge and attitudes of nutrition and dietetics students, dietitians, and other health professionals.[13-15] The aim of this study is to evaluate the opinions on sustainable nutrition among nutrition and dietetics students, dietitians and other health professionals.

MATERIAL AND METHOD

Design and Sampling

This study designed as a survey model and performed knowledge and attitudes on sustainable nutrition in nutrition and dietetic undergraduates, dieticians and other health professionals in Ankara. The sample size was determined using G*Power 3.1.9.6, with an effect size of 0.15, an alpha level of 0.05, and 95% power, resulting in a sample size of 450.[16] This research consists of three groups. First groups include Nutrition and Dietetics undergraduates between 18-65 ages who live in Ankara, second groups as dietitians and third is other health professionals (e.g. midwifery, nurse). Totally 456 individuals (Nutrition and Dietetic undergraduates n=157, dietitians n=60, other health professionals n=239) participate of the study.

Data Collection and Tools

The questionnaire consists of three parts. First part demographic features included 7 questions about gender, date of birth, education, department, class, occupation, and work status. Second part anthropometric measurements calculated by researchers' body weight (kg), body height (m), and third part knowledge and attitudes to sustainable nutrition were collected face-to-face interview method spending about 30 min for each participant to fill the questionnaire. Body Mass Index (BMI) calculated with body weight(kg) divided height(m) square (kg/m²). The data evaluated according to the classification of the World Health Organization (WHO). BMI values were classified as underweight <18.5 kg/m², normal 18.5-24.9 kg/ m², overweight 25-29.9 kg/ m², and obese ≥30 kg/m².[17] The survey consists of 26 questions evaluating participants' knowledge about sustainable nutrition. The questionnaire covers topics such as whether the respondents are educated about sustainable nutrition, their responses to certain statements about sustainable nutrition and their behaviours regarding the consumption of different food items. The section assessing the respondents' attitudes towards sustainable nutrition consists of 19 questions using a two-choice rating scale. The statements related to the participants' purchasing behavior's and attitudes towards food products are related to environmentally friendly sustainable nutrition approaches.

Statistical Analysis

The data were analyzed with IBM SPSS Statistics 24 (IBM SPSS) program. Descriptive categorical variables were defined with numbers (n) and percentages (%). Descriptive statistics were presented with mean ($\bar{X}$), standard deviation (SD). Relationships between two categorical variables were presented using cross-tables and tested using the Chi-Square test ($\chi 2$). The significance level in the study was set at $p<0.05$.[18]

Ethical Considerations

This study was approved by the Ankara Yıldırım Beyazıt University Ethics Committee with Decision No: 09 February 14, 2020. After ethical approval was obtained, all participants were given the necessary explanations about the study through the information paragraph in the questionnaire before starting the study and the informed consent form was signed. This study was conducted by the principles of the Declaration of Helsinki.

RESULTS

The study was completed with a total of 456 participants, disturbing 86.8% (n=396) females and 13.2% (n=60) males. Among the participants, 34.4% (n=157) were nutrition and dietetics students, 13.1% (n=60) were dietitians, and 52.5% (n=239) were other health professionals. The descriptive statistics for age, gender, and BMI of the participants are shown in **Table 1**. The average ages of nutrition and dietetics undergraduates, dietitians, and other health professionals were 21.9±2.12, 26.8±5.26, and 31.0±10.45 years, and female of the participants were found 97.5%,

98.3%, and 77.0% respectively. As seen in **Table 1**, normal BMI was found 71.3%, 68.3%, and %60.7 in graduates, dietitians, and other health professionals; on the other hand, overweight-obese participants distribution were determined 8.9%-1.3%, 8.3%-1.7%, and 27.6%-9.2%, respectively (p<0.05). The average (X̄±SD) BMI were calculated 21.0±4.30, 21.2±5.56, and 24.2±4.23 kg/m² averages for undergraduates, dietitians, and other health professionals, respectively.

Table 1. Participants' Socio-demographic Characteristics and BMI

	Undergraduates (n=157)		Dietitian (n=60)		Health Professionals (n=239)		p*
Age (X̄±SD)	21.9±2.12		26.8±5.26		31.0±10.45		
	n	%	n	%	n	%	
Gender							
Male	4	2.5	1	1.7	55	23.0	
Female	153	97.5	59	98.3	184	77.0	
BMI							
Underweight	29	18.5	13	21.7	6	2.5	
Normal	112	71.3	41	68.3	145	60.7	<0.05
Overweight	14	8.9	5	8.3	66	27.6	
Obese	2	1.3	1	1.7	22	9.2	
X̄±SD	21.0±4.30		21.2±5.56		24.2±4.23		

* Chi-Square

The percentages of participants who have received previously on sustainable nutrition education are found, 36.7%, 26.1%, and 2.5% for dietitians, undergraduates, and other health professionals, respectively (**Table 2**). Statistically significant differences were found among the groups (p<0.05).

In assessing their knowledge levels about sustainable nutrition categorized to 5-pointed Likert scale, 13.3% of dietitians and 3.8% of undergraduates declared that extremely aware, while no one from health professionals' group. Significantly difference found in three groups of participants (p<0.05) (**Table 2**).

Table 2. Training and Awareness of Sustainable Nutrition

	Undergraduates (n=157)		Dietitian (n=60)		Health Professionals (n=239)		p*
	n	%	n	%	n	%	
Training							
Yes	41	26.1	22	36.7	6	2.5	<0.05
No	116	73.9	38	63.3	233	97.5	
Self-Assess Awareness							
Extremely aware	6	3.8	8	13.3	-	-	
Moderately aware	54	34.4	38	63.3	29	12.1	
Somewhat aware	69	43.9	13	21.7	72	30.1	<0.05
Slightly aware	27	17.2	1	1.7	82	34.3	
Not at all aware	1	0.6	-	-	56	23.4	

* Chi-Square

Economical contribution perceptions of sustainable nutrition vary among dietitians, undergraduates, and other health professionals, with percentages of those who believe 100%, 99.4%, and 88.3%, respectively (p <0.05).

Regarding the perception of sustainable nutrition as a global issue, the percentages of undergraduates, dietitians, and other health professionals who believe in its global significance are 79.0%, 78.3%, and 66.9%, respectively (p<0.05). In terms of considering sustainable nutrition related to resource conservation, the percentages of those who hold this belief are 98.7%, 98.3%, and 92.1% for undergraduates, dietitians and health professionals, respectively (p<0.05).

Health professionals, compared to dietitians and undergraduates, have higher percentages of those who believe that the Mediterranean diet does not contribute to sustainable nutrition, with values of 22.6%, 3.3%, and 1.9%, respectively (p<0.05). Regarding the concepts of ecological footprint, carbon footprint, and biodiversity, the percentages of those who believe these are related to sustainable nutrition are 95.5%, 95.0%, and 74.5% for undergraduates, dietitians, and health professionals, respectively (**Table 3**).

Table 3. The Perception Analysis of Sustainable Nutrition

Attitudes	Undergraduates (n=157)		Dietitian (n=60)		Health Professionals (n=239)		p*
	Yes	No	Yes	No	Yes	No	
	n %	n %	n %	n %	n %	n %	
It may contribute to the economy	156 99.4	1 0.6	60 100.0	- -	211 88.3	28 11.7	<0.05
I think it's a global problem	124 79.0	33 21.0	47 78.3	13 21.7	160 66.9	79 33.1	<0.05
I think it is related to food safety	150 95.5	7 4.5	58 96.7	2 3.3	218 91.2	21 8.8	>0.05
I think it's about saving resources	155 98.7	2 1.3	59 98.3	1 1.7	220 92.1	19 7.9	<0.05
The Mediterranean diet does not contribute	3 1.9	154 98.1	2 3.3	58 96.7	54 22.6	185 77.4	<0.05
I believe that the terms diet and healthy eating are synonymous	96 61.1	61 38.9	37 61.7	23 38.3	172 72.0	67 28.0	>0.05
I think it is related to the concepts of ecological, and carbon footprint and biodiversity	150 95.5	7 4.5	57 95.0	3 5.0	178 74.5	61 25.5	<0.05

* Chi-Square

The percentages of undergraduates, dietitians, and other health professionals who believe that the production processes of foods can contribute to greenhouse gas emissions and water pollution are 96.8%, 96.7%, and 74.1%, respectively (p <0.05). Health professionals, compared to undergraduates and dietitians, have higher percentages of those who believe that the production processes of meat, poultry, and derivatives have significant environmental consequences, with values of 43.1%, 26.8%, and 8.3%, respectively (p<0.05).

Health professionals, compared to dietitians and undergraduates, have higher percentages of those who believe that the production processes of fruits and vegetables have significant environmental consequences, with values of 59.0%, 45.0%, and 42.0%, respectively (p<0.05). The percentages of those who believe that the production processes of processed packaged foods have significant environmental consequences are 94.9%, 90.0%, and 80.8% for undergraduates, dietitians, and health professionals, respectively (p<0.05).

Health professionals, compared to dietitians and undergraduates, have higher percentages of those who believe that foods requiring more water consumption are of plant origin, with values of 66.1%, 44.6%, and 28.3%, respectively (p<0.05). Health professionals, compared to dietitians and undergraduates, have higher percentages of those who believe that considering animal rights and welfare is not a concern in meat consumption, with values of 45.6%, 40.0%, and 31.2%, respectively (p<0.05) (**Table 4**).

The percentages of dietitians, undergraduates, and other health professionals who examine the nutritional labels on the products they purchase are 93.3%, 84.7%, and 73.2%, respectively (p<0.05). Dietitians are more likely to prioritize purchasing local products, with percentages of 80.0%, compared to health professionals (69.5%) and undergraduates (51.6%) (p <0.05).

The percentages of dietitians, undergraduates, and other health professionals in avoiding excessive food purchases are 100%, 94.9%, and 87.0%, respectively (p<0.05). Dietitians, undergraduates, and health professionals show percentages of 95.0%, 89.8%, and 77.0%, respectively, in being careful about evaluating food leftovers (p<0.05) (**Table 5**).

Health professionals are more likely to prioritize products with an organic certification, with percentages of 57.3%, compared to undergraduates (42.0%) and dietitians (35.0%) (p<0.05). Undergraduates, dietitians, and other health professionals show preferences for products produced seasonally, with percentages of 94.9%, 93.3%, and 83.7%, respectively (p<0.05). Undergraduates exhibit a higher percentage (98.7%) in paying attention to the price of the products they purchase compared to dietitians (91.7%) and other health professionals (90.0%) (p<0.05) (**Table 5**).

Table 4. The Distribution of Participants' Approaches Towards the Acquisition and Consumption of Various Foods

	Undergraduates (n=157)		Dietitian (n=60)		Health Professionals (n=239)		p*
	Yes	No	Yes	No	Yes	No	
	n %	n %	n %	n %	n %	n %	
Food production procedures have the potential to lead to high greenhouse gas emissions and water pollution	152 96.8	5 3.2	58 96.7	2 3.3	177 74.1	62 25.9	<0.05
I don't think the environmental impact of chicken and its production processes is significant.	42 26.8	115 73.2	5 8.3	55 91.7	103 43.1	136 56.9	<0.05
I think the environmental impact of milk and dairy production processes is significant.	110 70.1	47 29.9	48 80.0	12 20.0	161 67.4	78 32.6	>0.05
I think the environmental impact of vegetable and fruit production processes is significant.	66 42.0	91 58.0	27 45.0	33 55.0	141 59.0	98 41.0	<0.05
I think the environmental impact of bread and cereal production processes is significant.	75 47.8	82 52.2	34 56.7	26 43.3	138 57.7	101 42.3	>0.05
I do not think that the environmental impact of the production processes of dried legumes is high.	93 59.2	64 40.8	33 55.0	27 45.0	27 53.1	12 46.9	>0.05
I think the environmental impact of processed packaged foods production processes is significant.	149 94.9	8 5.1	54 90.0	6 10.0	193 80.8	46 19.2	<0.05
Foods that require more water consumption are of animal origin	101 64.3	56 35.7	46 76.7	14 23.3	89 37.2	150 62.8	<0.05
Foods that require more water consumption are of plant origin	70 44.6	87 55.4	17 28.3	43 71.7	158 66.1	81 33.9	<0.05
I don't care about animal rights when it comes to meat consumption	49 31.2	108 68.8	24 40.0	36 60.0	109 45.6	130 54.4	<0.05
It doesn't matter to me whether the fish comes from a farm or from the sea	41 26.1	116 73.9	16 26.7	44 73.3	68 28.5	171 71.5	>0.05

* Chi-Square

Table 5. The Distribution of Participants' Approaches and Tendencies Towards Grocery Shopping and Environmentally Friendly Practices

	Undergraduates (n=157)		Dietitian (n=60)		Health Professionals (n=239)		p*
	Yes	No	Yes	No	Yes	No	
	n %	n %	n %	n %	n %	n %	
I always review the nutritional information provided on the label	133 84.7	24 15.3	56 93.3	4 6.7	175 73.2	64 26.8	<0.05
I pay attention to the brand and manufacturer.	148 94.3	9 5.7	55 91.7	5 8.3	222 92.9	17 7.1	>0.05
I make sure to take into account the recommended expiration date.	156 99.4	1 0.6	59 98.3	1 1.7	230 96.2	9 3.8	>0.05
I make sure it is local product.	81 51.6	76 48.4	48 80.0	12 20.0	166 69.5	73 30.5	<0.05
I make sure it has an organic certificate.	66 42.0	91 58.0	21 35.0	39 65.0	137 57.3	102 42.7	<0.05
I ensure that the food is suitable for seasonal production.	149 94.9	8 5.1	56 93.3	4 6.7	200 83.7	39 16.3	<0.05
I make sure it is in the amount I can consume.	152 96.8	5 3.2	57 95.0	3 5.0	218 91.2	21 8.8	>0.05
I pay attention to the price.	155 98.7	2 1.3	55 91.7	5 8.3	215 90.0	24 10.0	>0.05
I make sure that the products are delicious.	154 98.1	3 1.9	58 96.7	2 3.3	226 94.6	13 5.4	>0.05
I pay attention to its contribution to sustainability.	96 61.1	61 38.9	41 68.3	19 31.7	147 61.5	92 38.5	>0.05
I make sure the packaging can be recycled or redesigned.	80 51.0	77 49.0	32 53.3	28 46.7	132 55.2	107 44.8	>0.05
I take care to have an environmentally friendly logo.	77 49.0	80 51.0	31 51.7	29 48.3	136 56.9	103 43.1	>0.05
I'm willing to pay more for sustainably produced food and drink products.	84 53.5	73 46.5	32 53.3	28 46.7	140 58.6	99 41.4	>0.05
I avoid excessive food purchases.	149 94.9	8 5.1	60 100.0	- -	208 87.0	31 13.0	<0.05
I take care to use food scraps.	141 89.8	16 1.2	57 95.0	3 5.0	184 77.0	55 23.0	<0.05
I separate my garbage (plastic, glass, paper, batteries, food, etc.).	85 54.1	72 45.9	34 56.7	26 43.3	131 54.8	108 45.2	>0.05

*Chi-Square

DISCUSSION

The expected global population increase, coupled with environmental concerns such as climate change, exerts greater pressure on our planet's limited natural resources. The future food system should meet the nutritional needs for the health of future generations, while also ensuring the sustainability of natural ecosystems in economic, social, and environmentally appropriate ways.[19] Therefore, dietitians need to be adequately equipped to raise awareness in society about sustainable nutrition approaches with low environmental impact, contributing to a healthy life for current and future generations, as well as to food and nutrition security.

When evaluating the participants' status of receiving education on sustainable nutrition, it was found that dietitians and undergraduates had a higher percentage compared to health professionals (p<0.05). However, a significant lack of education on sustainable nutrition was identified. In Akay's study,[12] although the percentage of nutrition and dietetics students receiving education on sustainable nutrition was higher than that of medical faculty students, no statistically significant difference was observed (p>0.05). In contrast to our study's results, Engin and Sevim[20] reported in their study that there was no significant difference between sustainable nutrition behavior and knowledge scores and the field of study (p >0.05). When assessing their knowledge levels on sustainable nutrition, dietitians and undergraduates claimed to be very good at it by 13.3% and 3.8%, respectively, while no one from the health professionals claimed to be very good. Similar to our study results, Ünal Özen[11] stated that 2.9% of dietitians and 0.6% of nutrition and dietetics students expressed themselves as very good in sustainable nutrition. Similarly, there were no individuals from other department students who claimed to be very good.[11] The reason for dietitians and nutrition and dietetics students having such a low percentage of claiming to know sustainable nutrition very well could be due to the lack of mandatory curriculum in sustainable nutrition in undergraduate education. The reason for health professionals' not-very-good statements may indicate a lack of public awareness on this issue.

The percentages of correct answers to the statements 'Sustainable nutrition contributes to the economy, I believe it is a global issue, I believe it is related to resource conservation, the Mediterranean diet has no contribution, I believe it is associated with the concepts of ecological footprint, carbon footprint, and biodiversity' are similar between dietitians and undergraduates (78.3% - 100%), while in the health professionals (77.4% - 92.1%), this rate is significantly lower ($p<0.05$).

Undergraduates and dietitians have answered 'yes' to the statement 'The production processes of foods can cause an increase in greenhouse gases and pollution of waters' compared to health professionals (respectively, 96.8%, 96.7%, 74.1%, $p<0.05$). In a study, medical students stated that foods high in fat and sugar and meat and meat products have a greater impact on greenhouse gas emissions, while undergraduates indicated that foods high in fat and sugar and fruits and vegetables have a greater impact.[12] In our study, health professionals do not believe that the production processes of meat, poultry, and derivatives have significant environmental consequences compared to undergraduates and dietitians (respectively, 43.1%, 26.8%, 8.3%, $p<0.05$). Lentz et al.[21] found that consumers are less aware of the environmental impact of meat consumption compared to other sustainable nutrition behaviors. Health professionals believe that the production processes of vegetables and fruits have significant environmental consequences compared to undergraduates and dietitians (respectively, 59.0%, 45.0%, 42.0%, $p<0.05$). In a study, participants from other departments believed that the production processes of vegetables and fruits have the most environmental impact compared to undergraduates.[11] In another study in the field of sustainable nutrition, it was reported that nutrition and dietetics students exhibit a more environmentally conscious attitude compared to nursing students.[22] The reason why individuals outside the Nutrition and Dietetics group have these thoughts may be due to the absence of courses in their curricula that would affect environmental awareness during their education.

Dietitians and undergraduates predominantly believe that foods requiring more water consumption are of animal origin (76.7%, 64.3%, respectively), while health professionals think that foods requiring more water are of plant origin (66.1%) ($p<0.05$). The higher correct answer rates of dietitians and undergraduates may stem from learning about the Mediterranean diet, which includes a high proportion of plant-based foods with a low water footprint, in their undergraduate courses.[23]

When evaluating participants' approaches to the products they purchase while food shopping, most dietitians, undergraduates, and health professionals examine the nutrition labels on the products they purchase (93.3%, 84.7%, 73.2%, respectively, $p<0.05$). Like our results, a study conducted in 2012 found that the rate of habitually reading food labels among Turkish consumers was 76.5%.[24] Another study showed that nutrition and dietetics students have a higher rate of reading food labels compared to other health science students.[25]

Dietitians and health professionals are more inclined to ensure that the products they purchase are locally produced compared to undergraduates (80.0%, 69.5%, 51.6%, respectively, $p<0.05$). In a study by Engin and Sevim,[20] university students scored the lowest average on the sustainable behavior scale for the item 'I pay attention not to consume imported food.' In the same study, students scored the highest on the item 'I pay attention to taking as much food as I can eat on my plate'.[20] Similarly, in our study, dietitians, undergraduates, and health professionals mostly avoid excessive food purchases (100%, 94.9%, 87.0%, respectively, $p<0.05$).

Health professionals are more inclined to ensure that the products they purchase have an organic certification compared to undergraduates and dietitians (57.3%, 42.0%, 35.0%, respectively, $p<0.05$). In a study conducted on university students, it was found that they prioritize taste, freshness, and price most when buying food, and organic certification is least considered.[26]

Undergraduates, dietitians, and health professionals mostly ensure that the products they purchase are produced in accordance with the season (94.9%, 93.3%, 83.7%, respectively, $p<0.05$). Similar to our study results, Kayak[27] in a study on Family Health Center employees, found that doctors scored the highest on the item of seasonal food consumption in terms of sustainable nutrition awareness ($p<0.05$).

CONCLUSION

Dietitians and undergraduates have been found to possess greater knowledge and awareness of sustainable nutrition compared to health professionals. However, they express a lack of adequate competence in this area. To promote the widespread adoption of the concept of sustainable nutrition in society, dietitians should be provided with the necessary training, nutritional guidelines should be developed, and policies should be formulated to create awareness. Given the limited studies on sustainable nutrition, there is a need for further research on this topic.

ETHICAL DECLARATIONS

Ethics Committee Approval: The study was obtained from Ankara Yıldırım Beyazıt University Ethics Committee (Date: 14.02.2020, Decision No: 09).

Informed Consent: All patients signed the free and informed consent form.

Referee Evaluation Process: Externally peer-reviewed.

Conflict of Interest Statement: The authors have no conflicts of interest to declare.

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Author Contributions: All of the authors declare that they have all participated in the design, execution, and analysis of the paper, and that they have approved the final version.

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