Progress in Nutrition 2021; Vol. 23, N. 4: e2021157 DOI 10.23751/pn.v23i4.11480

Original article

Culture and Adherence to the Mediterranean Diet: An Island's Scope

Taygun Dayi[1], *Adile Oniz*[2]

[1]Near East University, Faculty of Health Sciences, Department of Nutrition and Dietetics, Nicosia-Cyprus; [2]Near East University, Faculty of Health Sciences, Nicosia-Cyprus

Summary. *Background:* The Mediterranean diet is a nutritional model which is known with the Mediterranean countries. It is based on the nutritional habits and lifestyles of people from the region incorporating nutrition, physical activity, food production etc. The island of Cyprus is centrally located in the eastern part of the region. There are cultural differences between the northern and southern regions. In addition to native islanders, there are latecomers who have come to the island for education, work or after retirement term. *Objective:* This study aimed to determine locals -from each side- and latecomers' adherence to the Mediterranean diet and relation between food production and the Mediterranean diet adaptation. *Methods:* Participation was voluntary in this presented study. There were 715 participants. General background and food production were determined with questionnaire developed by researchers. Overall, adherence to the Mediterranean diet was conducted by Mediterranean Diet Adherence Screener (MEDAS). *Results:* The mean MEDAS score was 7.46 ± 2.23 points, while the Southern side of the island had a higher adaptation (due to more red wine and white meat consumption) ($p<0.001$). According to results as latecomers' duration of stay in the island increased, their MEDAS scores improved (i.e. who lived in this island more than ten years had the highest MEDAS in latecomers subgroup) (p: 0.03). Strikingly, participants -who produced their own foods- had higher score in proportion to production volume (p: 0.007). *Conclusion:* The current study has been shown that nationality (i.e. country of origin) is not an important factor on the nutritional habits of people. Inhabitance duration in the Mediterranean region is very effective to adapt to nutrition habits of this region. In addition, own food production is an indispensable part of the Mediterranean diet.

Key words: MEDAS, Cyprus, Mediterranean diet, culture, Mediterranean region

Introduction

The Mediterranean diet is based on the nutritional habits of people who live in the Mediterranean region. This region is known as 'society cradle' and it has hosted almost all cultures from different periods of time. It is defined as a unique piece of land (1). People -who live in the Mediterranean region- have nearly the same nutritional habits against cultural differences (2). The Mediterranean diet is a mainly plant-based nutrition model. High consumption of olive oil, vegetables, fruits and whole grains is the most common.

In addition, it is characterized by moderate fish, red wine, dairy products, nuts and seeds consumption (3). The so called 'Current Mediterranean Pyramid' reflects the Mediterranean people's nutritional habits without cultural properties (2, 4). Basic principle of the pyramid includes food production/horticulture and nature intertwining actions. At the same time, there are some nutritional suggestions about the Mediterranean diet principles according to consumption frequency (4). The Mediterranean diet has smaller ecological footprint than other diet models because of its components (5). In addition to the ecological effects, there may be positive relation between the Mediterranean diet and prevention from some chronic diseases (6-10).

Cyprus is the third biggest island in the Mediterranean Sea. The largest population is Cypriots who are defined as islanders. People from different countries also inhabit this island (11). Cyprus is neighbor with some countries who has Mediterranean coast such as Syria, Turkey, Egypt, Greek islands etc. It relates to a number of Mediterranean countries, mainly Italy, Greece etc. for food supply and economy (12).

There are some studies for determination of the Mediterranean diet adaptation of people -from different age groups- in Cyprus (13-17). However, these studies include cases either from Northern or Southern region of Cyprus. Researchers have not come across study which includes cases from all regions of the Cyprus as well as non-islanders who have come to this country later.

From this point, this current study is aimed to determine locals -from all regions (Northern and Southern)- and latecomers' adaptation to the Mediterranean diet. At the same time, it is aimed to evaluate effects of cultural background, inhabitance duration, local food production and availability on the individual Mediterranean diet adaptation.

Materials and Methods

Place, time of the study, and sample selection

This current study was conducted in Cyprus. Islanders (Cypriots) and other people -who have come to this island later- participated in this study. Participation was voluntary and only adults -who currently live in the Cyprus- could participate. There were 715 participants in this study who selected by random sample selection. This study was conducted between October 2020 to February 2021.

Ethical compliance

Ethical compliance of this study was registered by Near East University, Health Sciences Ethics Committee (NEU/2020/85-1198).

Data collection

Researchers have prepared questionnaires in English, Greek, German, Russian and Turkish languages. We have collected data by the online platforms (Google Forms). In addition, if participants did not have online account researchers manually completed those forms.

Participant's general background (cultural properties, settlement, inhabitation duration time in Cyprus, location of birth), health information (health status) and food production status (growing vegetables-fruits and producing stable foods such as yoghurt, bread etc.) were collected by a questionnaire which was developed by researchers.

The adaptation status to the Mediterranean diet and adherence range of the Mediterranean diet patterns were determined by 'Mediterranean Diet Adherence Screener – MEDAS'. The online connection link of these questionnaires was shared on five different national platforms.

Mediterranean Diet Adherence Screener (MEDAS)

MEDAS includes 14 items which are related with the Mediterranean diet patterns. It was developed by Martínez-González et al (18). Positive responses to each item provide participants with +1 point (19). According to MEDAS score ≤6 points mean 'low', 7-8 points 'moderate' and ≥9 points 'high' adherence to the Mediterranean diet (20). MEDAS has been validated in English, Greek, German and Turkish societies, and languages (21-24).

Statistical Analysis

Researchers have evaluated data by Statistical Package for Social Science (SPSS 18.5). Descriptive statistics were used to determine the minimum, maximum, mean and standard deviation values of quantitative data and frequencies (n) and percentages (%) of qualitative data. The compliance of the data to normal distribution was evaluated by the Levene test. In addition, independent sample t test, Mann Whitney U test, Pearson Chi-square test and One-Way ANOVA test and Tukey Post Hoc test were used to determine differences between the groups. Statistical significance status of the differences was determined according to 'p' value. $p<0.05$ shows there is statistical significance.

Results

There were 715 participants in this current study. 77.6% of them was Cypriot (native islanders). 87.6% of Cypriots were from the Northern, 12.4% were from the Southern region. 22.8% of all participants have come to this island later. Latecomers' 17.8% have lived in Cyprus for 1-5 years, 16.6% for 5-10 years and 65.6% for more than 10 years. 20.2% of latecomers have also come from the Mediterranean countries. 34.8% of them produced their own food. In addition, 75.9% had small, 17.7% medium and 6.4% large scale production. 31.0% had at least one disease (Table 1).

The mean MEDAS score was found as 7.46 ± 2.23 points. In addition, 34.0% of participants had low, 35.0% moderate and 31.0% high adherence to the Mediterranean diet. According to cultural groups others -who have come this island later- had higher MEDAS score than Cypriots. Even though there was a trend, the result was not statistically significant ($p>0.05$) (Table 2).

The most common principle of the Mediterranean diet was olive oil consumption (82.9%) in this island. This was followed by ≥2 times garlic, tomato, onion sauce consumption in a week (77.3%), ≥2 portion vegetables consumption in a day (66.3%), ≥3 portions nuts consumption in a week (63.9%) and <1 portion read meat consumption in a day (61.7%) (Table 3).

When these results were compared in cultural groups, researchers have found only one statistical

Table 1. Participants' general background information

Cultural properties (n: 715)		
	n	**%**
Cypriots	555	77.6
Others	160	22.4
Total	**715**	**100.0**
Cypriots' settlement (n: 555)		
	n	**%**
Northern region	486	87.6
Southern region	69	12.4
Total	**555**	**100.0**
Inhabitation duration in Cyprus (n: 715)		
	n	**%**
Since birth	552	77.2
Came later	163	22.8
Total	**715**	**100.0**
Latecomers' inhabitation duration in Cyprus (n: 163)		
	n	**%**
1-5 years	29	17.8
5-10 years	27	16.6
>10 years	107	65.6
Total	**163**	**100.0**
Location of birth (n: 163)		
	n	**%**
Mediterranean country	33	20.2
Non-Mediterranean country	130	79.8
Total	**163**	**100.0**
Food production (n: 715)		
	n	**%**
Yes	249	34.8
No	466	65.2
Total	**715**	**100.0**
Food production scale (n: 249)		
	n	**%**
Small	189	75.9
Medium	44	17.7
Large	16	6.4
Total	**249**	**100.0**
Health status (n: 715)		
	n	**%**
At least one disease	222	31.0
Healthy	493	69.0
Total	**715**	**100.0**

*Small: Enough for nuclear family
*Medium: Enough for nuclear and extended family
*Large: Enough to sell

Table 2. MEDAS scores and adaptation status to the Mediterranean diet

MEDAS scores				
	Cypriots (n: 555)	**Others (n: 160)**	**Total (n: 715)**	
	Mean ± SD (Min-Max)	**Mean ± SD (Min-Max)**	**Mean ± SD (Min-Max)**	**p_1**
MEDAS score	7.43 ± 2.25 (1.00-14.00)	7.56 ± 2.15 (1.00-13.00)	7.46 ± 2.23 (1.00-14.00)	0.54

The Mediterranean diet adaptation status							
	Total (n: 715)		**Cypriots (n: 555)**		**Others (n: 160)**		
Adaptation status	**n**	**%**	**n**	**%**	**n**	**%**	**p_2**
Low	243	34.0	195	35.1	48	30.0	0.34
Moderate	250	35.0	187	33.7	63	39.4	
High	222	31.0	173	31.2	49	30.6	
Total	**715**	**100.0**	**555**	**100.0**	**140**	**100.0**	

p_1: Independent Samples T test
p_2: Pearson Chi-Square test
SD: Standard deviation

Table 3. The compliance levels to MEDAS

	Cypriots (n: 555)		**Others (n: 160)**		**Total (n: 715)**		
Matters (Consumption of)	**n**	**%**	**n**	**%**	**n**	**%**	**p**
1. *Olive oil more than other oils*	466	84.0	127	79.4	593	82.9	0.17
2. *≥4 tablespoons of olive oil in a day*	271	48.8	87	54.4	358	50.1	0.21
3. *≥2 portions cooked vegetables or ≥1 portion raw vegetables and salad in a day.*	364	65.6	110	68.8	474	66.3	0.45
4. *≥3 portions fruits or natural fruit juice in a day.*	245	44.1	64	40.0	309	43.2	0.35
5. *<1 portion or never red meat, hamburger or meat products in a day.*	348	62.7	93	58.1	441	61.7	0.29
6. *<1 portion or butter, margarine or cream in a day.*	283	51.0	94	58.8	377	52.7	0.08
7. *<1 portion or never sugary and carbonated drinks in a day.*	265	47.7	70	43.8	335	46.9	0.37
8. *≥7 glasses of red wine in a week.*	57	10.3	20	12.5	77	10.8	0.42
9. *≥3 portion fish and shellfish in a week.*	119	21.4	38	23.8	157	22.0	0.53
10. *≥3 portion legumes in a week.*	344	62.0	96	60.0	440	61.5	0.65
11. *<1 time or never instant cake and pastry in a week.*	320	57.7	87	54.4	407	56.9	0.46
12. *≥3 portion nuts in a week.*	342	61.6	115	71.9	457	63.9	0.01*
13. *Choosing chicken, turkey and rabbit instead of beef, beef, hamburgers and sausages.*	280	50.5	78	48.8	358	50.1	0.70
14. *≥2 times garlic, tomato, onion sauce pasta, vegetables, or rice in a week.*	423	76.2	130	81.3	553	77.3	0.18

p: Pearson Chi-Square test ***:** Statistically significance

Table 4. Cypriots' compliance levels to MEDAS

	From Northern region (n: 486)		From Southern region (n: 69)		
Matters (Consumption of)	**n**	**%**	**n**	**%**	**p**
1. *Olive oil more than other oils*	403	82.9	63	91.3	0.07
2. *≥4 tablespoons of olive oil in a day*	238	49.0	33	47.8	0.85
3. *≥2 portions cooked vegetables or ≥1 portion raw vegetables and salad in a day.*	312	64.2	52	75.4	0.06
4. *≥3 portions fruits or natural fruit juice in a day.*	210	43.2	35	50.7	0.23
5. *<1 portion or never red meat, hamburger or meat products in a day.*	298	61.3	50	72.5	0.07
6. *<1 portion or butter, margarine or cream in a day.*	231	47.5	52	75.4	<0.001*
7. *<1 portion or never sugary and carbonated drinks in a day.*	207	42.6	58	84.1	<0.001*
8. *≥7 glasses of red wine in a week.*	41	8.4	16	23.2	<0.001*
9. *≥3 portion fish and shellfish in a week.*	106	21.8	13	18.8	0.57
10. *≥3 portion legumes in a week.*	302	62.1	42	60.9	0.83
11. *<1 time or never instant cake and pastry in a week.*	275	56.6	45	65.2	0.17
12. *≥3 portion nuts in a week.*	307	63.2	35	50.7	0.04*
13. *Choosing chicken, turkey and rabbit instead of beef, beef, hamburgers and sausages.*	232	47.7	48	69.6	0.001*
14. *≥2 times garlic, tomato, onion sauce pasta, vegetables, or rice in a week.*	364	74.9	59	85.5	0.05

p: Pearson Chi-Square test ***:** Statistically significance

significantly result. Cypriots had less consumption of nuts than others who has come this island later. (p: 0.01) (Table 3).

Table 4 shows differences of the adherence to the MEDAS matters between Cypriots from Northern and Southern region. Cypriots from Southern region had less butter, margarine, cream, sugary and carbonated drinks consumptions in a day which are not compatible with the Mediterranean diet (p<0.001). At the same time, they had more red wine consumption in a week (p<0.001). On the other hand, Cypriots from Northern region had more nuts consumption in a week (p: 0.01) and they have preferred red meat more than white (p: 0.001).

At the same time, Cypriots -who live in the Southern region of Cyprus- had higher adaptation to the Mediterranean diet and MEDAS score (p: 0.001). Healthy participants had higher adaptation than others who has at least one disease. This result was not statistically significant (p: 0.556). There was statistically significance difference between MEDAS score and food production status, food production scale, hometown region, latecomers' duration of stay in the island. According to these, Cypriots from the Southern region had a higher score (p<0.001). Participants who produce their own foods, had higher score than others who do not produce (p: 0.02). As participants production scale increased, MEDAS score increased (p: 0.007). Latecomers -who have come from the Mediterranean country- had higher scores too (p: 0.03). As latecomers' duration in the Island increase, MEDAS score increases according to Table 5. In these subgroups, latecomers -who live this Island more than ten years- had the highest MEDAS score (p: 0.03) (Table 5).

Discussion

This current study was conducted with 715 participants. The mean MEDAS score was found to be 7.46 ± 2.23 points. Andrade et al. (25) have studied with 490

Table 5. Effects of some factors on the Mediterranean diet adaptation status and MEDAS score

Adaptation status									
	Low		**Moderate**		**High**		**Total**		
The regions Cypriots live in	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**p_1**
North	181	37.2	166	34.2	139	28.6	486	100.0	0.001*
South	14	20.3	21	30.4	34	49.3	69	100.0	
Health status	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**p_1**
At least one disease	80	36.0	79	35.6	63	28.4	222	100.0	0.556
Healthy	163	33.1	171	34.7	159	32.3	493	100.0	
MEDAS score									
The regions Cypriots live in (n: 555)	**Mean ± SD (Min-Max)**								**p_2**
North (n: 486)	7.25±2.16 (1.00-13.00)								<0.001*
South (n: 69)	8.71±2.49 (3.00-14.00)								
Food production status (n: 715)	**Mean ± SD (Min-Max)**								**p_3**
Yes (n: 249)	7.71±2.09 (3.00-13.00)								0.02*
No (n: 466)	7.33±2.29 (1.00-14.00)								
Food production scale (n: 249)	**Mean ± SD (Min-Max)**								**p_3**
Small (n: 189)	7.51±2.04 (3.00-13.00)								0.007*
Medium and Large (n: 60)	8.35±2.13 (3.00-12.00)								
Others' region of origin (n: 163)	**Mean ± SD (Min-Max)**								**p_3**
Mediterranean (n: 33)	8.27±2.52 (4.00-13.00)								0.03*
Non-Mediterranean (n: 130)	7.36±2.14 (1.00-12.00)								
Latecomers' duration of stay in Cyprus (n: 163)	**Mean ± SD (Min-Max)**								**p_4**
1-5 years	7.24±2.55 (1.00-12.00)								0.03*
5-10 years	7.37±2.80 (2.00-13.00)								
>10 years	7.68±2.01 (4.00-12.00)								

p_1: Pearson Chi-Square test
p_2: Mann Whitney U test
p_3: Independent Samples T test
p_4: One Way ANOVA; Group comparisons with Post-Hoc test: 1-5 years and 5-10 years p: 0.103, 5-10 years and >10 years p: 0.09, 1-5 years and >10 years: 0.02
SD: Standard deviation
*: Statistically significance

adult participants in Portugal which is also recognized as a Mediterranean country. The MEDAS score was found similarly to be 7.4 ± 2.1 points. Similarly, in the Spain, researchers reported 7.44 ± 2.12 points MEDAS score (26). In addition, Schwarzer et al. (27) designed a study to determine Italian, Greek and Spanish participants (n: 454) MEDAS score. They have reported 7.30 ± 1.43 points. The Mediterranean diet has been known to be a mainstream nutrition model which is the most common in the Mediterranean region (2). People who live in Mediterranean countries have similar adherence to the Mediterranean diet with some cultural differences (28).

In this present study, Cypriots' adherence to the Mediterranean diet was found to be nearly similar to others who have come to this island later. Nemeth et al. (29) have studied 66 participants from 22 different nationalities. Participants did not live in their hometowns. They have reported that participants had adapted the nutrition habits of countries where they currently lived. Likewise, people -who have come to the

Mediterranean region later- have added the Mediterranean diet patterns to their own habits (30). Living in a region for a long time caused a strategy of adaptation of their nutrition and social habits regardless of one's original culture (31). We have found statistically significantly positive relation between latecomers' MEDAS scores and their inhabitation period in Cyprus. There are similar results from other Mediterranean countries. Researchers have reported as duration of stay in Portugal increased, MEDAS scores increased (25). In addition, latecomers' – who have come to Cyprus from another Mediterranean countries-had higher score than latecomers from non-Mediterranean countries. There may be some differences about food productions, cultural features and lifestyle between Mediterranean and non-Mediterranean countries. Thus, people from other countries may not adhere to the Mediterranean diet very well (32).

At the same time, there may be some region related problems and they may reflect to the food choices (2). García-Conesa et al. (22) had aimed to evaluate (n: 407) MEDAS scores from seven different countries (Mediterranean and non-Mediterranean). They have found that people from the Mediterranean region had higher MEDAS score. However, it has been shown in the present study that the adaptation levels of these participants may increase over time.

The island of Cyprus consists of two regions as 'Northern' and 'Southern'. There are some cultural and lifestyle differences between these regions (33). There are some studies about the Mediterranean diet adaptation of Cypriots, but they have systematically included only one region of the island (14, 16). The current study has determined Cypriots' Mediterranean diet adaptation from all regions of the island. According to results Cypriots from the Southern region had higher MEDAS scores and thus higher Mediterranean diet adaptation. When we have evaluated differences between Cypriots' nutritional habits, we have found the main points. Red wine and white meat consumptions were higher in the Southern region. *Commandaria* is a traditional alcoholic beverage (red wine) in Cyprus. It is produced in the Southern region. *Commandaria* export has an important effect on the economy of the island. In addition, consumption level of it is higher than the Northern region (34). On the other hand, consumption level of dry alcoholic drinks, such as *Raki,* is more common in the Northern region (35). Akbora (36) had reported that: the fishing industry has grown on the Northern region of Cyprus since 1970s. But it is not reflected to consumption, being merely related with commerce. The limited red meat consumption -a current trend worldwide- has been found in the Southern region of Cyprus (37). Highlighting this point, red meat consumption is higher than fish in the Northern region (36). Here islanders have consumed 10 kg fish per person in 2011 whereas this amount was found to be 22.3 kg for the Southern region (36, 38).

Gardening, food production and support to the domestic production are important patterns of the Mediterranean diet (39). In the current study, researchers have aimed to determine relation between production scale and MEDAS scores. In this prospect, participants -who had food production in their own home or garden- had higher MEDAS scores than others who had no production. In addition, we have found that if production scale increases, participants' MEDAS scores increase. There are similar results in a study from other Mediterranean countries (25). Here, Algert et al. (40) have determined positive relation between food production and healthy food choices. According to their results, producing participants choose plant-based foods and had balanced nutrition habits.

Healthy participant's MEDAS scores were higher than others who had at least one disease in our study. The Mediterranean diet includes lots of nutrients and nutritional components. They have some potential benefits on human health status and may decrease chronic diseases risk (41). Sofi et al. (42) has reported only two points increase in the Mediterranean diet adaptation score resulted in 8% reduction in all mortality risk. Similar to our study, positive relation between MEDAS score and participants' health status was also determined by Torrado et al. (43).

Limitations

Comparatively lower number of latecomers and Cypriots from Southern region could be considered as limitation of the current study. The pandemic has provided a number of obstacles while reaching out to the subjects.

Conclusion

In conclusion, this current study has been shown that nationality (i.e. country of origin) is not an important factor on the nutritional habits of people. Inhabitance duration in the Mediterranean region is very effective to adapt to nutrition habits of this region. In addition, own food production is an indispensable part of the Mediterranean diet.

Participants -who produce their own food- had higher adaptation scores. Lastly, the Mediterranean diet has a positive factor related to health status. There was significant difference between north and south regions of Cyprus and the Mediterranean diet adaptations. On the other hand, some Cypriots have comparatively low adherence to the Mediterranean diet.

Modification of the Current Mediterranean Diet Pyramid with traditional foods may be an important approach to further promote an ideal adherence.

Acknowledgements: The authors would like to thank Prof. Murat Ozgoren and Mrs. Angela Charlton Gokasan for their supportive contributions.

Competing interest: The authors declare no conflicts of interest in connection with this article.

Funding: There is not any funding sources or support for this study.

References

1. Altomare R, Cacciabaudo R, Damiano G et al. The Mediterranean diet: A history of health. Iranian J of Publ Health 2013; 42(5): 449-57.
2. La˘ca˘tusu CM, Grigorescu ED, Floria M, Onofriescu M, Mihai BM. The Mediterranean diet: From an environment-driven food culture to an emerging medical prescription. Int J Environ Res Public Health 2019; 16(6): 1-16.
3. George ES, Kucianski T, Mayr HL, Moschonis G, Tierney AC, Itsiopoulos C. A Mediterranean diet model in Australia: Strategies for translating the traditional Mediterranean diet into a multicultural setting. Nutrients 2018; 10(4): 1-20.
4. Bach-Faig A, Berry EM, Lairon D et al. Mediterranean diet pyramid today. Science and cultural updates. Public Health Nutr 2011; 14(12A): 2274-84.
5. Naja F, Itani L, Hamade R, Chamieh MC, Hwalla N. Mediterranean diet and its environmental footprints amid nutrition transition: The case of Lebanon. Sustainability 2019; 11(23): 1-18.
6. Esposito K, Maiorino MI, Bellastella G, Chiodini P, Panagiotakos D, Giugliano D. A journey into a Mediterranean diet and type 2 diabetes: A systemic review with meta-analyses. *BMJ* Open 2015; 5(8): 1-5.
7. Roman B, Carta L, Martínez-González MĂ, Serra-Majem L. Effectiveness of the Mediterranean diet in the elderly. Clin Interv Aging 2008; 3(1): 97-109.
8. Arós F, Estruch R. Mediterranean diet and cardiovascular prevention. Rev Esp Cardiol 2013; 66(10): 771-4.
9. Gotsis E, Anagnostis P, Mariolis A, Vlachou A, Katsiki N, Karagiannis A. Health benefits of the Mediterranean diet: An update of research over the last 5 years. Angiology 2015; 66(4): 304-18.
10. Papassotiriou I, Islam Shariful SM. Adherence to Mediterranean diet is associated with lung function in older adults: Data from the Health and Retirement Study. J Am Coll Nutr 2020; 40(2): 119-24.
11. Delipetrou P, Makhzoumi J, Dimopoulos P, Georghiou K. Chapter 9: Cyprus. In: Vogiatzakis IN, Pungetti G, Mannion AM, editors. Mediterranean island landscapes natural and cultural approaches. 1st ed. United Kingdom (UK): Springer; 2008. p. 170-202.
12. Pedi R, Kouskouvelis I. Cyprus in the Eastern Mediterranean: A small state seeking for status. In: Litsas SN, Tziampiris A, editors. The new Eastern Mediterranean. 1st ed. United Kingdom (UK): Springer; 2019. p. 151-67.
13. Kabaran S, Gezer C. Determination of the Mediterranean diet and the obesity status of children and adolescents in Turkish Republic of Northern Cyprus. Turkish J Pediatr Dis 2013; 7(1): 11-20.
14. Dayi T, Soykut G, Ozturk M, Yucecan S. Mothers and children adherence to the Mediterranean diet: Evidence from a Mediterranean country. Prog Nutr 2021; 23(2): 1-10.
15. Demetriou CA, Hadjisavvas A, Loizidou MA, Loucaides G, Neophytou I, Sieri S, Kakouri E, Middleton N, Vineis P, Kyriacou K. The Mediterranean dietary pattern and breast cancer risk in Greek-Cypriot women: A case-control study. BMC Cancer 2012; 12: 1-12.
16. Kyriacou A, Evans JMM, Economides N, Kyriacou A. Adherence to the Mediterranean diet by Greek and Cypriot population: A systematic review. Eur J Public Health 2015; 25(6): 1012-8.
17. Lazarou C, Panagiotakos DB, Matalas A. Level of adherence to the Mediterranean diet among children from Cyprus: the CYKIDS study. Public Health Nutr 2009; 12(7): 991-1000.
18. Martínez-González MA, García-Arellano A, Toledo E et al. A 14-item Mediterranean diet assessment tool and obesity indexes among high-risk subjects: The PREDIMED trial. PLoS One 2012; 7(8): 1-10.
19. Martínez-González MA, Fernández-Jarne E, Serrano-Martínez M, Wright M, Gomez-Gracia E. Development of a short dietary intake questionnaire for the quantitavie

estimation of adherence to a cardioprotective Mediterranean diet. Eur J Clin Nutr 2004; 58(11): 1550-2.
20. Hernάndez-Galiot A, Goñi I. Adherence to the Mediterranean diet pattern, cognitive status and depressive symptoms in an elderly non-institutionalized population. Nutr Hosp 2017; 34(2): 338-44.
21. Hebestreit K, Yahiaoui-Doktor M, Engel C et al. Validation of the German version of the Mediterranean Diet Adherence Screener (MEDAS) questionnaire. BMC Cancer 2017; 17: 1-10.
22. García-Conesa MT, Philippou E, Pafilas C et al. Exploring the Validity of the 14-Item Mediterranean Diet Adherence Screener (MEDAS): A cross-national study in seven European countries around the Mediterranean region. Nutrients 2020; 12(10): 1-17.
23. Papadaki A, Johnson L, Toumpakari Z et al. Validation of the English version of the 14-Item Mediterranean Diet Adherence Screener of the PREDIMED study, in people at high cardiovascular risk in the UK. Nutrients 2018; 10(2): 1-16.
24. Pehlivanoglu EFO, Balcioglu H, Unluoglu I. Turkish validation and reliability of Mediterranean Diet Adherence Screener. Osmangazi J of Med 2020; 42(2): 160-4.
25. Andrade V, Jorge R, García-Conesa MT et al. Mediterranean diet adherence and subjective well-being in a sample of Portuguese adults. Nutrients 2020; 12(12): 1-15.
26. Muros JJ, Zabala M. Differences in Mediterranean diet adherence between cyclists and triathletes in a sample of Spanish athletes. Nutrients 2018; 10(10): 1-11.
27. Schwarzer R, Fleig L, Warner LM et al. Who benefits from a dietary online intervention? Evidence from Italy, Spain and Greece. Public Health Nutr 2017; 20(5): 938-47.
28. Phull S. The Mediterranean diet: Socio-cultural relevance for contemporary health promotion. Open Public Health J 2015; 8(1): 35-40.
29. Nemeth N, Rudnak I, Ymeri P, Fogarassy C. The role of cultural factors in sustainable food consumption – An investigation of the consumption habits among international students in Hungary. Sustainability 2019; 11(11): 1-27.
30. Tierney AC, Zabetakis I. Changing the Irish dietary guidelines to incorporate the principles of the Mediterranean diet: Proposing the MedÈire diet. Public Health Nutr 2018; 22(2): 375-81.
31. Ball K, Timperio AF, Crawford DA. Understanding environmental influences on nutrition and physical activity behaviors: Where should we look and what should we count?. Int J Behav Nutr Phys Act 2006; 3: 1-8.
32. Hoffman R, Gerber M. Evaluating and adapting the Mediterranean diet for non-Mediterranean populations: A critical appraisal. Nutr Rev 2013; 71(9): 573-84.
33. Constantinou CM, Demetriou O, Hatay M. Conflicts and uses of cultural heritage in Cyprus. JBNES 2012; 14(2): 177-98.
34. Vrontis D, Paliwoda SJ. Branding and the Cyprus wine industry. J Brand Manag 2008; 16(3): 145-59.
35. Kendirci B, Sin T, Darbaz I. TRNC economy status report. Cyprus (CY): Embassy of Turkey; 2018/02/22. Report no.: 16.
36. Akbora HD. General status and growth potential of fisheries sector in Northern Cyprus. Nat Eng Sci 2020; 5(2): 73-81.
37. Demirkol C. The analysis of red meat sector at industry and consumer level in Turkey [PhD thesis]. Turkey (TR): Namık Kemal University; 2007.
38. Food and Agriculture Organization of the United Nations (FAO). Fishery and aquaculture country profiles. 2015/11 [Accessed 2021/01/30] http://www.fao.org/fishery/facp/CYP/en
39. Echeverría G, Tiboni O, Berkowitz L et al. Mediterranean lifestyle to promote physical, mental, and environmental health: The case of Chile. Int J Environ Res Public Health 2020; 17(22): 1-17.
40. Algert S, Diekmann L, Renvall M, Gray L. Community and home gardens increase vegetable intake and food security of residents in San Jose, California. Calif Agric 2016; 70(2): 77-82.
41. Benyaich A. The effects of the Mediterranean diet on chronic diseases: Cardiovascular diseases, oxidative stress, dyslipidemia, diabetes mellitus, blood pressure, cancer, neurodegenerative disease and obesity. Journal Adv Res 2017; 2(6): 333-55.
42. Sofi F, Macchi C, Abbate R, Gensini GF, Casini A. Mediterranean diet and health status: An updated meta-analysis and a proposal for a literature-based adherence score. Public Health Nutr 2013; 17(12): 2769-82.
43. Torrado YP, Velasco AG, Galiot AH, Cambrodón IG. A stategy for weight loss based healthy dietary habits and control of emotional response to food. Nutr Hosp 2015; 31(6): 2392-9.

Correspondence
Prof. Dr. Adile ONIZ
Address: Near East University
-Faculty of Health Sciences, Dean
Phone number: +90 548 8204720
Email: adile.oniz@neu.edu.tr