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## Original Article

# Cuisine culture of the pearl of Mesopotamia: Mardin, Turkey

Jiyan Aslan Ceylan<sup>\*</sup>, Ayse O. Ozcelik

Ankara University, Faculty of Health Sciences, Department of Nutrition and Dietetics Ankara, Turkey



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## ABSTRACT

**Background:** Mardin, which is located in Southeast Anatolia and hosts the generosity of Mesopotamia, has a significant contribution to Turkey's cuisine culture. This study was conducted to investigate the cuisine cultures of the indigenous families living in the central district of Mardin.

**Methods:** The sampling of the study consisted of 300 families living in Artuklu and described as native. The study was conducted with married women aged between 20 and 65 years who were responsible for family feeding. The data were collected through face-to-face interviews using a questionnaire form. Data analysis of the study was conducted using Statistical Package for the Social Sciences package program. Statistical significance was evaluated at  $p < 0.05$ .

**Results:** It was found that 51.7% of the families eat their meals in the kitchen, 81.1% of the families with a high number of members eat on the floor table, and 57.6% of the families with a low number of members eat on the dining table ( $p < 0.05$ ). It was determined that the cooking rate of local dishes and desserts is higher in the families of unemployed women ( $p < 0.05$ ).

**Conclusion:** As each country has a unique cuisine culture, Turkey also has a rich cuisine culture that falls into distinct forms according to the regions and provinces. Mardin, which is located in Southeast Anatolia and hosts the generosity of Mesopotamia, has a significant contribution to Turkey's cuisine culture.

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## 1. Introduction

Cultural factors defined as social norms, values, and beliefs that are inherited from one generation to another within an ethnic group are influenced by variables such as social structure, language, and religion of societies [1]. Culture, which is the whole of tangible and intangible values, also includes information, habits, general attitudes, thoughts, and behaviors belonging to societies [2]. Cuisine culture is also a vital cultural heritage giving clues about the identity, lifestyle, eating habits, and authenticity of societies [3]. Factors such as geographical location and historical developments of the communities affect the cuisine culture, encompassing the unique way of eating styles, dish types, and cooking and preparing methods of dishes in the countries or regions [4].

Just as every country reflects its own culture and has a cuisine culture synthesized with the richness of its geography, Turks have a cuisine culture that is the result of the integration of the simple cuisine of Central Asia and the magnificent cuisine of the Ottoman

Empire [5]. Turkish cuisine, which is one of the few cuisines known in the world, has a historical background dating back hundreds of years [6]. The changes that have taken place in this historical process stem from the experiences of the Turks in a rich geography and intercultural interactions [7,8]. Turks adopted Persian cuisine because of establishing the Seljuks, Middle East cuisine because of accepting Islam, and cuisine culture of Anatolian civilizations from Hittites to Byzantine Empire because of the conquest of Anatolia, the cradle of the agriculture [9]. Turkish cuisine is an important cuisine in terms of animal and agricultural nutrient diversity, tools and equipment used, and the cooking methods [10].

Each region in Turkey has unique cooking methods, eating culture, and a regional cuisine [11]. Local dishes, which have been emerged as a result of distinct practices of different cultures influencing each other in the region, which are affected by the interregional climates and geographical conditions, which have become tradition, and which are consumed in special events mostly, are the vital elements that create the cuisine culture and make it richer [12].

Mardin, which is located in Turkey's Southeast Anatolia and a melting pot of cultures and where languages and religions integrate with each other and 30 civilizations have been hosted until today, took its place among the few cities known in the world with its unique culture and mysterious streets and architectural structure

<sup>\*</sup> Corresponding author. Ankara University, Faculty of Health Science, Department of Nutrition and Dietetics Altındağ, 06080, Ankara, Turkey.

E-mail addresses: [jynaslan@gmail.com](mailto:jynaslan@gmail.com) (J. Aslan Ceylan), [ozferozcelik@gmail.com](mailto:ozferozcelik@gmail.com) (A.O. Ozcelik).

[13]. It has a rich cultural structure and historical remains as it has been a settlement center since Babylon, Assyrian, Hittite, Urartu, Persian, Seljuk, Umayyad, Abbasid, Anatolian Seljuks, Artuqids, and Ottoman Empire periods in the course of history [14]. Because it is located on the Silk Route, which was an important trade route in history, caravans that used these roads played an important role in the commercial life of the city [15]. Today, people of various ethnicities such as Kurds, Assyrians, Turks, and Armenians, as well as various religious beliefs such as Judaism, Christianity, Islam, Shamanism, and Yazidi, live in this region together [16]. Mardin, which is deemed an interest beyond the borders of Turkey, has been nominated to enter the UNESCO World Heritage Cities List with its rich culture and historical structure [17].

Because Mardin is the settlement center of many civilizations in the historical process, it reflected this rich cultural texture in its cuisine [14]. Mardin cuisine is based on the cultural diversity of Mesopotamia, where the oldest food production and production techniques in the world were developed, the agricultural products of the region, and other food and beverages [18]. Various Mardin-specific agricultural products are grown because of the climate and geographical conditions of the region [19]. Dishes cooked only for religious rituals, weddings, births, and deaths are the significant part of the local cuisine [13].

The studies on the cuisine culture should be resolved from the superficiality and examined more comprehensively. The number of publications made on cuisine culture of Mardin is inadequate. This study was conducted to investigate the cuisine cultures of the indigenous families living in Artuklu, the central district of Mardin.

## 2. Materials and methods

### 2.1. Selection of the research area

The research area is the central district of Artuklu of Mardin province. The universe of the study is the families living in the

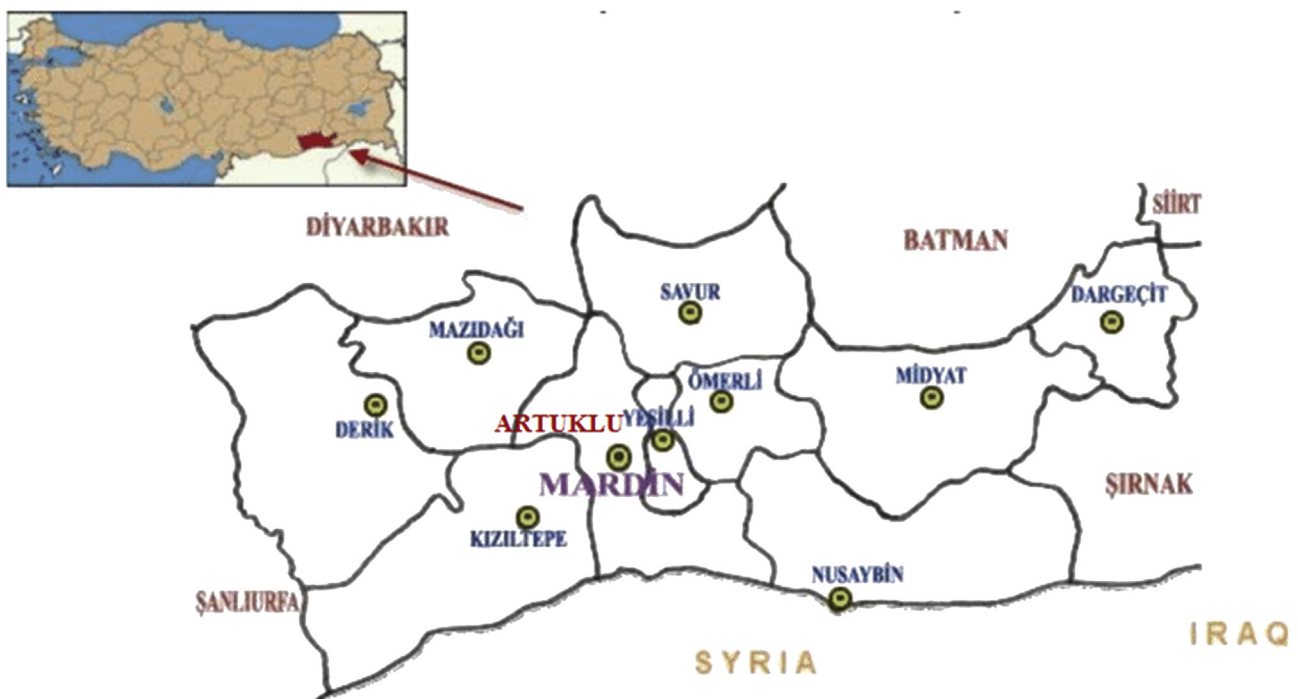
central district of Artuklu (Fig. 1). This research area is chosen because most of the studies on cuisine culture carried out in Turkey and the world focus on the cuisine culture of the whole country instead of a certain region or area, the number of studies conducted on this specific topic is inadequate, a cuisine culture study conducted in a region will contribute to that region more than the studies conducted in the whole country, and there is no study discussing cuisine culture of Mardin although Mardin possess a rich cuisine culture.

### 2.2. Identifying the research method and sample

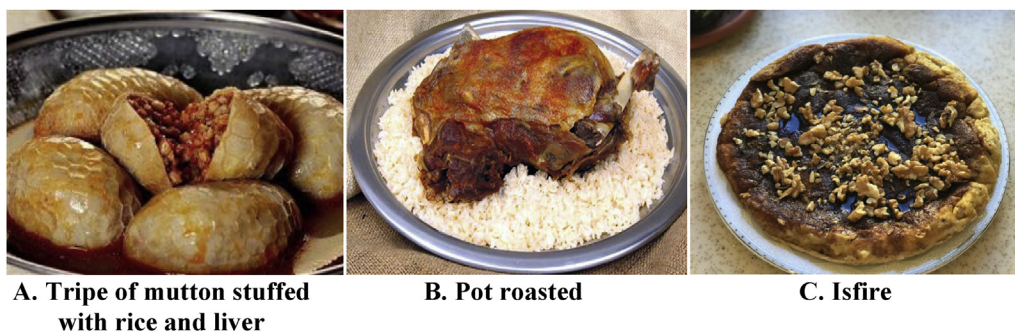
The present study is a descriptive case study. The universe of the study is the indigenous families living in the central district of Artuklu. According to the population census of Artuklu in 2014, the central population is 151,356, and the total number of households is 28,497 [20]. With a sampling of approximately 1% of the households, 300 families were included in the study. In the study, married women who are in charge of family feeding were interviewed, and it was considered that women aged between 20 and 65 years. First, the necessary permits were obtained from the Mardin Governorate, and then, the Ethics Committee of Mardin Artuklu University was consulted. This study was conducted with the approval of the ethics committee dated 24.03.2016 and numbered 2016/01-2.

### 2.3. Data collection method

The data were collected through face-to-face interviews using a questionnaire form. The intelligibility of the questions was tested with the help of 10 women, and the questionnaire was finalized after the necessary corrections. The collection of research data was carried out with home visits. Before the questionnaire form was filled, the scope of the study was explained to each individual and a consent form was signed by the participants. The data were



**Fig. 1.** A map highlighting the surveyed region. Mardin is a multiethnic and multireligion city located 30 km away from the border of Syria and around 250 km from the border of Iraq. Mardin is located in Turkey's Southeast Anatolia region. In terms of acreage, Mardin corresponds to 1.1% of Turkey. It is located in the Upper Mesopotamian basin between 36° 55'–38° 51' northern latitudes and 39° 56'–42° 54' east longitudes. The central district of Mardin is Artuklu.



**Fig. 2.** Example of Mardin-specific local dishes and desserts. Local dishes and desserts are cooked for special days. (A) The lamb tripe is cut into palm sized. Two sides of the cut pieces are sewn with a needle. Rice is stuffed from the open side, and then this is side sewn too and cooked for about an hour. (B) Lamb or goat ribs are stuffed with rice, and then the ribs are sewn with a needle and cooked for 3–6 hours. (C). It is a kind of dessert made with molasses poured on the omelet.

collected between April 25 and June 17, 2016. The administering of the questionnaire took approximately 45–50 minutes.

#### 2.4. Data analysis

Data analysis of the study was conducted using Statistical Package for the Social Sciences 20 (SPSS) package program. Research data are presented in the tables with absolute and percent (%) values. Chi-square significance test was conducted to determine whether there is a significant relationship between qualitative variables.  $T = 3T1 + 2T2 + T3$  formula was used to make the comparison more apparent in the interpretation of the preference questions. In the formula, T corresponds to “total score”, T1 corresponds to “first preference”, T2 corresponds to “second preference”, and T3 corresponds to “third preference”. The preference scores of each family were determined, and the average scores were calculated [21]. Statistical significance was evaluated at  $p < 0.05$ . In all statistical tests, the confidence interval was accepted as 95.0%.

### 3. Results

The average age and marriage age of women participating in the study are  $41.12 \pm 10.3$  and  $19.85 \pm 4.1$  years, respectively. It was determined that the average number of persons in the family is  $5.46 \pm 2.2$ , the number of persons living together with the family is  $4.52 \pm 1.6$ , and the number of children is  $3.44 \pm 2.1$ . The average residing duration of women in Mardin was determined as  $38.37 \pm 10.6$  years. It was reported that 19.7% of women are illiterate/literate, 34.0% are primary school graduates, 11.2% are middle school graduates, 17.7% are high school graduates, and 16.7% are university graduates. It was determined that 19.7% of the women are employed and 80.3% are not employed. It was found that 87.3% of the families are nuclear families, 6.7% are extended families, and 6.0% are single-parent families (Table 1).

Some of the food varieties such as cheese, soup, meat, vegetable, spices, and oil which the participating families prefer most to consume were asked. It was found that the most consumed three cheese types are farmer cheese ( $2.52 \pm 0.7$  points), bryndza ( $2.11 \pm 0.3$  points), and white cheese ( $2.09 \pm 0.7$  points); the most consumed three soup types are lentil soup ( $2.90 \pm 0.3$  points), yogurt soup ( $1.85 \pm 0.3$  points), and tarhana soup ( $1.71 \pm 0.6$  points); the most consumed three meat types are beef ( $2.21 \pm 0.8$  points), lamb ( $2.19 \pm 0.7$  points), and chicken ( $2.05 \pm 0.8$  points). Rice pilaf ( $2.35 \pm 0.6$  points), bulgur pilaf ( $2.21 \pm 0.7$  points), and pasta ( $1.44 \pm 0.7$  points) are the most preferred rice pasta type of food. The most preferred three vegetable dishes by the families are

hodgepodge ( $2.33 \pm 0.8$  points), kineber (a type of herb grown in Mardin) ( $2.24 \pm 0.8$  points), and eggplant ( $2.17 \pm 0.8$  points) in summers; and acanthus ( $2.37 \pm 0.7$  points), hodgepodge ( $2.30 \pm 0.8$  points), and spinach ( $2.30 \pm 0.7$  points) in winters. It was found that the most preferred three fruit types by the families are watermelon ( $2.40 \pm 0.7$  points), strawberry ( $1.89 \pm 0.8$  points), and grape ( $1.87 \pm 0.9$  points) in summers and mandarin ( $2.38 \pm 0.8$  points), grapefruit ( $2.04 \pm 0.7$  points), and pomegranate ( $2.03 \pm 0.8$  points) in the winters. Kahhiye (a type of dessert made with cheese in Mardin) ( $2.61 \pm 0.7$  points), rice pudding ( $2.26 \pm 0.8$  points), and cheese halva ( $2.20 \pm 0.8$  points) are the most consumed desserts; watermelon seed ( $2.31 \pm 0.8$  points), melon seed ( $2.20 \pm 0.7$  points), and sunflower seed ( $2.15 \pm 0.7$  points) are the most consumed dried nuts and fruits. Sunflower oil ( $2.76 \pm 0.5$  points), plain butter ( $2.11 \pm 0.6$  points), and olive oil ( $1.76 \pm 0.6$  points) are the most consumed oil types and isot ( $2.04 \pm 0.7$  points), “five types spices” (mixture of black pepper, cumin, cinnamon, coriander, and pimento, a special type of spice in Mardin) ( $1.89 \pm 0.9$  points), and sumac ( $1.76 \pm 0.7$  points) are the most consumed spice types (Table 2).

**Table 1**  
Some mean and percentage values for women and families.

General information	$\bar{X}$	SD
Woman's age (years)	41.12	10.3
Woman's marriage age (years)	19.85	4.1
Total number of individuals in the family	5.46	2.2
The number of persons living together with the family	4.52	1.6
Number of children	3.44	2.1
Residing duration of women in Mardin (years)	38.37	10.6
Women's education level	n	%
Illiterate	39	13.0
Literate	20	6.7
Primary school	102	34.0
Middle school	34	11.2
High school	53	17.7
University	50	16.7
Graduate	2	0.7
Women's work status		
Employed	59	19.7
Unemployed	241	80.3
Family structure		
Nuclear families	262	87.3
Extended families	20	6.7
Single-parent families	18	6.0
Total	300	100.0

SD, standard deviation; X, mean.

**Table 2**  
Some food preferences of the families.  
X = Mean, SS = Standard Deviation

Food preferences	$\bar{X} \pm SS$	$\bar{X} \pm SS$	$\bar{X} \pm SS$
<b>Types of cheese</b>		<b>Types of soup</b>	<b>Types of meat</b>
Farmer cheese	2.52 ± 0.7	Lentil soup	Beef
White cheese	2.09 ± 0.7	Yogurt soup	Lamb
Bryndza	2.11 ± 0.3	Tarhana soup	Chicken
<b>Types of rice pasta</b>		<b>Types of vegetable dishes in summers</b>	<b>Types of vegetable dishes in winters</b>
Rice pilaf	2.35 ± 0.6	Hodgepodge	Acanthus
Bulgur pilaf	2.21 ± 0.7	Kineber	Hodgepodge
Pasta	1.44 ± 0.7	Eggplant	Spinach
<b>Types of fruit in summers</b>		<b>Types of fruit in winters</b>	<b>Types of desserts</b>
Watermelon	2.40 ± 0.7	Mandarin	Kahhiye
Strawberry	1.89 ± 0.8	Grapefruit	Rice pudding
Grape	1.87 ± 0.9	Pomegranate	Cheese halva
<b>Types of dried nuts and fruits</b>		<b>Types of oil</b>	<b>Types of spice</b>
Watermelon seed	2.31 ± 0.8	Sunflower oil	Isot (Chipotle)
Melon seed	2.20 ± 0.7	Plain butter	Five types spices
Sunflower seed	2.15 ± 0.7	Olive oil	Sumac

The women interviewed were asked, “Do you consume yogurt in main meals?” and it was determined that the yogurt is consumed mostly at breakfast (79.0%) (Table 3).

In the sample, it was found that 51.7% of the families eat in the kitchen, 35.3% eat in the living room, and 13.0% eat at the saloon. It was determined that 62.5% of the families with population of ≤4 members and 37.9% of families with population of >4 members eat in the kitchen and that the families with more members mostly use the living room and dining room to eat (48.5% and 13.6% of the families with population of >4 members and 25.0% and 12.5% of the families with population of ≤4 members, respectively). A proportion of 81.1% of the families with a high number of members eat on the floor table, and 57.6% of the families with a low number of members eat on the dining table. It was found that the differences between the number of members living with the family and the places where the family eat at home and the serving styles of the families are statistically significant ( $p < 0.05$ ). In the sample, it was found that 83.0% of the families eat on separate plates, 13.0% eat on separate plates with guests but on the same plate at other times, and 4.0% eat on the same plate. When the families with population of >4 members and the families having relatively lower number of members were compared, it was found that the number of families eating on the same plate (5.3% and 3.0%, respectively) and eating on separate plates with guests but on the same plate at other times (20.5% and 7.1%, respectively) are higher in the families with a high number of people. It was determined that 89.9% of families with population of ≤4 members eat on separate plates. Eating styles of the families vary according to the number of members at home ( $p < 0.05$ ). (Table 4).

There are many specific local dishes and desserts in Mardin cuisine culture. Fig. 2 shows some examples about Mardin-specific local dishes and desserts (Fig. 2). Cooking statuses of Mardin-specific local dishes and desserts are given in Table 5 according to the employment status of women. Cooking rates of the local dishes are 97.3% for mixed wraps and farci, 95.3% for stuffed meatballs (boiled), 93.0% for seasoned rice, 90.0% for meat bulgur, 88.7% for

**Table 3**  
Consuming yogurt in the main meals of the family.

Main meals	Consume		Not consume		It varies depending on the kinds of food	
	n	%	n	%	n	%
Breakfast	237	79.0	22	7.3	41	13.7
Lunch	82	27.3	78	26.0	140	46.7
Dinner	113	37.7	5	1.7	182	60.6

Damascus patty, 88.3% for stuffed meatballs (fried), 84.3% for tripe of mutton stuffed with rice and liver, 70.7% for pot roasted, 60.7% for acanthus sauté, and 32.7% for truffle roast. More than half of the families (57.0%) cook zerde (saffron and rice dessert), and about half of the families (48.3%) cook isfire (omelet with molasses). When the cooking status of local dishes and desserts was assessed according to the employment status of women, it was found that the cooking rate of tripe of mutton stuffed with rice and liver, meat bulgur, truffle roast, acanthus sauté, and zerde (saffron and rice dessert) is significantly higher in the families of unemployed women ( $p < 0.05$ ).

#### 4. Discussion

The existence of many communities differing in terms of economic, social, and cultural conditions; geographical location; and climate has led to the change in the rules related to the cuisine among the communities and the emergence of different eating cultures [22,23].

The eating habits of individuals and communities play a role in shaping the food choices of them [24]. In this study, the three most commonly consumed cheeses by the family were farmer cheese

**Table 4**  
Places where the families eat at home, food service, and eating styles.

Eating places	Number of people living with the family						Chi-square test	p
	≤4		>4		Total			
	n	%	n	%	n	%		
Kitchen	105	62.5	50	37.9	155	51.7	20.285	0.000*
Living room	42	25.0	64	48.5	106	35.3	SD = 2	
Saloon	21	12.5	18	13.6	39	13.0		
<b>Food serving styles</b>							38.680	0.000*
Floor table	77	45.8	107	81.1	184	61.3	SD = 1	
Dining table	91	54.2	25	18.9	116	38.7		
<b>Eating styles</b>							13.255	0.001*
Same plate	5	3.0	7	5.3	12	4.0	SD = 2	
Separate plates	151	89.9	98	74.2	249	83.0		
Separate plates with guests but on the same plate at other times	12	7.1	27	20.5	39	13.0		
<b>Total</b>	<b>168</b>	<b>100.0</b>	<b>132</b>	<b>100.0</b>	<b>300</b>	<b>100.0</b>		

SD, standard deviation.

\* $p < 0.05$ .

**Table 5**  
Cooking statuses of Mardin-specific local dishes and desserts in the family.

Specific local dishes and desserts	Employed				Unemployed				Total				Chi-square test P
	Cooked		Not cooked		Cooked		Not cooked		Cooked		Not cooked		
	n	%	n	%	n	%	n	%	n	%	n	%	
Pot roasted	43	72.9	16	27.1	169	70.1	72	29.9	212	70.7	88	29.3	0.174 0.677
Tripe of mutton stuffed with rice and liver	44	74.6	15	25.4	209	86.7	32	13.3	253	84.3	47	15.7	5.292 0.021*
Seasoned rice	56	94.9	3	5.1	223	92.5	18	7.5	279	93.0	21	7.0	0.414 0.520
Stuffed meatballs (boiled)	53	89.8	6	10.2	233	96.7	8	3.3	286	95.3	14	4.7	4.999 0.025*
Stuffed meatballs (fried)	47	79.7	12	20.3	218	90.5	23	9.5	265	88.3	35	11.7	5.360 0.021*
Mixed wraps and farci	58	98.3	1	1.7	234	97.1	7	2.9	292	97.3	8	2.7	0.267 0.605
Damascus patty	46	78.0	13	22.0	220	91.3	21	8.7	266	88.7	34	11.3	8.369 0.004*
Meat bulgur	49	83.1	10	16.9	221	91.7	20	8.3	270	90.0	30	10.0	3.941 0.047*
Truffle roast	12	20.3	47	79.7	86	35.7	155	64.3	98	32.7	202	67.3	5.074 0.024*
Acanthus sauté	25	42.4	34	57.6	157	65.1	84	34.9	182	60.7	118	39.3	10.300 0.001*
Zerde (saffron and rice dessert)	24	40.7	35	59.3	147	61.0	94	39.0	171	57.0	129	43.0	7.983 0.005*
Isfire (omelet with molasses)	24	40.7	35	59.3	121	50.2	120	49.8	145	48.3	155	51.7	1.724 0.189

\*p < 0.05.

(2.52 ± 0.7 points), bryndza (2.11 ± 0.3 points), and white cheese (2.09 ± 0.7 points) (Table 2). In a study conducted in Turkey's Black Sea region, it was determined that 88.3% of the individuals consumed white cheese, 86.7% consumed kashar cheese, and 60.8% consumed bryndza [25]. In a study conducted in the Central Anatolia region, the most preferred cheese types were white cheese (1.48 ± 1.4 points for females and 1.83 ± 1.3 points for males), kashar cheese (1.09 ± 1.0 points for females and 1.48 ± 0.9 for males), and bryndza (0.89 ± 0.9 points for females and 0.78 .90.8 points for males) [24]. In a study conducted in the Aegean region, it was determined that dry cottage cheese (772 points), white cheese (328 points), and yeasted cheese (206 points) were the most preferred cheese types [26]. Although the most preferred cheese in these studies is white cheese, it was found that farmer cheese, which is pickled cheese made from sheep and goat milk to meet villagers' own needs, is preferred in the first place in the cuisine culture of Mardin.

Anatolian culture and Turks give a folkloric importance to soup, and it is widely consumed. Especially tarhana soup, yogurt soup, flour soup, and lentil soup are the most consumed and known soups [7,11]. In this study, the first three soup types preferred by the families are lentil soup (2.90 ± 0.3 points), yogurt soup (1.85 ± 0.3 points), and tarhana soup (1.71 ± 0.6 points), which are common in Turkish cuisine (Table 2). In a study, it was found that the most preferred soup types were red lentil soup (582 points), tarhana soup (438 points), and noodle soup (235 points), and this result is similar to that in our study [26].

Lamb is the most precious meat in the cuisine culture of Mardin, and it is preferred more in dishes. Beef meat is used in raw meatballs, stuffed meatballs, and roasted meat. Chicken sold in groceries is not preferred much, and turkey and chicken purchased from the villages are used in the dishes [27]. In this study, it was found that the most preferred three meat types are beef (2.21 ± 0.8 points), lamb (2.19 ± 0.7 points), and chicken (2.05 ± 0.8 points) (Table 2). In a study conducted on 384 families in Eastern Anatolia region, it was determined that 70.0% of the families preferred chicken and 30.0%

preferred red meat [28]. In a study conducted to determine the red meat consumption of 400 families living in the Mediterranean region, it was found that sheep meat was purchased more frequently than other red meat and meat products [29]. In a study conducted in the Aegean region, it was seen that the families preferred chicken meat (799 points), beef meat (466 points), and lamb meat (337 points) [26]. It was found that the consumption of fish is very low due to the fact that the dishes are made with red meat and chicken in Mardin cuisine.

Although bulgur, which is obtained by boiling and grinding the wheat, is widely consumed in Eastern Anatolia, Southeast Anatolia, Central Anatolia, and Mediterranean regions [30], the first three rice pasta type of food in the study are rice pilaf (2.35 ± 0.6 points), bulgur pilaf (2.21 ± 0.7 points), and pasta (1.44 ± 0.7 points) (Table 2). In a study, women preferred bulgur pilaf (1.75 ± 1.1 points) first, followed by rice pilaf (1.58 ± 1.2 points) and pasta (1.56 ± 1.1 points) [24]. Compared to pasta and rice, the consumption of bulgur, which has a higher content of fiber and vitamin B and lower energy [30], should be increased.

Sunflower seed, roasted chickpea, peanut, hazelnut, pistachio, and pumpkin seeds are the most consumed dried nuts in Turkey. In particular, melon and watermelon seeds are consumed as dried nuts in the Southeastern Anatolia region [31]. In this study, it was found that watermelon seed (2.31 ± 0.8 points), melon seed (2.20 ± 0.7 points), and sunflower seed (2.15 ± 0.7 points) are the most preferred three dried nut types (Table 2). In a study conducted, it was determined that hazelnut (1.31 ± 1.2 points for females and 1.59 ± 1.1 points for males), walnut (1.19 ± 1.2 points for females and 1.38 ± 1.2 points for males), and pistachio (female 0.71 ± 1.0 points for females and 0.74 ± 1.0 points for males) were the most consumed three dried nuts types among females and males [24]. In another study, it was determined that the most preferred dried nuts in the students' families were listed as raisin (94.0%), other dried fruits (84.0%), and sunflower seed (79.5%) [22].

Plain butter is a type of butter produced and consumed mostly in Turkey's Southeastern Anatolia region [32]. In this study, it was

determined that the first three oil types used in cooking are sunflower oil ( $2.76 \pm 0.5$  points), plain butter ( $2.11 \pm 0.6$  points), and olive oil ( $1.76 \pm 0.6$  points) (Table 2). In a study conducted in the Central Anatolia region, it was determined that 61.2% of the women used the sunflower oil, 47.6% used margarine, and 19.4% used corn oil [33]. In a study conducted on 150 families living in the Black Sea region, the first three oil types used by the families in cooking were sunflower oil, olive oil, and corn oil [34], whereas they were ranked as olive oil (828 points), sunflower oil (391 points), and soft margarine (251 points) in the Aegean region [26]. The studies on the oil types used in cooking are similar to this study in that the sunflower oil and olive oil take place in the first three oil types preferred, but they differ in terms of the lack of plain butter consumption.

The natural herbs that are added to the foods for extra smell, taste, and flavor by crushing, drying, and grinding seeds, flowers, fruit, roots, hulls, and leaves of these herbs are called as “spice”. The most consumed spices in Turkey are red chili pepper (25.0%) and black pepper (8.0%) [35]. The most preferred three spice types in the participating families are chipotle ( $2.04 \pm 0.7$  points), mixture of five types spices ( $1.89 \pm 0.9$  points), and sumac ( $1.76 \pm 0.7$  points) (Table 2). In a study conducted to determine the spice consumption habits of 1030 individuals in 13 provinces of Turkey, it was found that red hot chili pepper, black pepper, and cumin were the most consumed three spice types [35]. In Mardin, which is located in the Southeastern Anatolia region which is the extension of the Spice Route, it is found out that the use of spices is higher; especially the hot spice types are preferred.

In Mardin culture, the kitchen is not only an area where food is cooked but also a place that is used as a room and where most of the time is spent. Accordingly, it was found that more than half of the families (51.7%) in the sample eat in the kitchen, 35.3% eat in the living room, and 13.0% in the saloon. A proportion of 81.1% of the families with a high number of members eat on the floor table, and 57.6% of the families with a small number of members eat on the dining table ( $p < 0.05$ ). It was found that 83.0% of the families eat on separate plates. Moreover, eating on the same plate (5.3% and 3.0%, respectively) and eating on separate plates with guests but on the same plate at other times (20.5% and 7.1%, respectively) are relatively higher in the families with population of  $>4$  members than in the families with a small number of members ( $p < 0.05$ ) (Table 4). In a study conducted in the Central Anatolia region, it was found that 86.6% of the women's families eat on separate plates, 9.5% eat on the same plate, and 3.9% eat on separate plates with guests [36]. In another study carried out with 190 families living in the Black Sea region, it was determined that the dishes were served at the dining table and with separate plates [37]. In a study, it was revealed that 45.7% of the families ate mostly in the living room, 35.7% ate in the kitchen, and 18.6% ate in the saloon; 60.7% of the families ate on the floor table; and 37.5% ate on the same plate [26]. As it is obvious, the place to eat and eating and serving styles in the families differ according to the place where they live, women's employment status, and the number of family members. In the Turkish cuisine culture, especially in rural areas, the habit of eating on the floor table or sini (any round brass or copper tray used as a table for serving the dishes) causes eating on the same plate. These traditional practices can lead to some infectious diseases as well as the unbalanced consumption of nutrients among family members.

Local dishes are the dishes that have been emerged by bringing together the products grown in the region and the culture of the people in that region. These regional dishes are cooked especially at the religious feasts, weddings, and special events [38]. In this study, families' frequency of cooking local dishes and desserts of Mardin was investigated. It was determined that these Mardin-specific dishes and desserts are cooked by the families of unemployed women more than of employed ones ( $p < 0.05$ ) (Table 5). In a study

conducted with 390 individuals to determine the recognition status of locals about the cuisine culture of Erzurum (a province in Eastern Anatolia region), it was found that 59.4% of the individuals reported that cuisine culture of Erzurum was not disappeared, and 67.6% reported that local dishes were not cooked anymore [39]. The reason why some local dishes are cooked less frequently in Mardin cuisine can be the dishes being hard to cook and time-consuming and the increased number of employed women.

As a result, the cuisine culture influenced by factors such as the geographical location and historical development of the societies encompasses region-specific eating habits and dish types of countries or regions. As each country has a unique cuisine culture, Turkey also has a rich cuisine culture that falls into distinct forms according to the regions and provinces. Mardin, which is located in Southeast Anatolia and hosts the generosity of Mesopotamia, has a significant contribution to Turkey's cuisine culture. For this reason, studies on cuisine culture need to be examined in more detail, even in terms of regions and provinces.

### Conflict of interest

All the authors declare that they have no conflict of interest regarding this article.

### References

- [1] Cencen N and Berk NA. The place and the importance of the Turkish folk culture items at the 6th and 7th elementary social studies curricula. *e-Kafkas J Educ Res* 2014;1(3):13–25.
- [2] Aklanoglu F. Cultural tourism at traditional settlements: the case of Beypazari. *Kastamonu Univ. J For Fac* 2010;10(2):125–36.
- [3] Karaca OB and Karacaoglu S. Conceptual analysis of Arabian cuisine in the framework of culture, religion and food interaction: the case of Adana. *Hitit Univ J Inst Soc Sci* 2016;9(2):561–84.
- [4] Yaris A and Ozkaya FD. Development process of American cuisine culture. *J Tourism Gastronomy Stud* 2015;3(3):90–101.
- [5] Arman A. Publicity problem of the Turkish cuisine culture: the example of Mengen cuisine. MSc diss. University of Duzce; 2011
- [6] Un H. Turizmin cesitlendirilmesi acisindan geleneksel Turk mutfaginin degerlendirilmesi. Master thesis, Ankara. 2009.
- [7] Arli M and Gumus H. Soups in Turkish cuisine culture. 38. ICANAS. *Int Congr Asian N Afr Stud* 2007;1(1):143–58.
- [8] Oncel S. Turkish cuisine and an assessment on its future. *J Tourism Gastronomy Stud* 2015;3(4):33–44.
- [9] Dogdubay M. Marketing problems and solutions in specialised restaurants in Turkey (a sample application). MSc diss. University of Balikesir; 2000
- [10] Cakici AC and Eser S. An assessments of Turkish cuisine by the view of foreign cuisine chefs. *J Tourism Gastronomy Stud Special Issue* 2016;4(1):215–27.
- [11] Guler S. Turkish kitchen culture and eating and drinking habits. *Dumlupinar Univ J Soc Sci* 2010;6(2):24–30.
- [12] Sengul S and Turkay O. The evaluation of Mediterranean cuisine as a gastro-nomic tourism product. *J Tourism and Gastronomy Stud* 2016;4(1):86–99.
- [13] Anonymous. Mardin tarihcesi. *J Idarecinin Sesi* 2013;154:107–20.
- [14] Yilmaz I. Kulturel zenginlik bakimindan Mardin. *J Acad Res Relig Sci* 2009;9(1):51–70.
- [15] TUIK (Turkish Statistical Institute). Secilmis gostergelerle Mardin. Turkish Statistical Institute Publication No. 4336; 2013. 189 p. Ankara. URL: <http://www.tuik.gov.tr/ilGostergeleri/iller/MARDIN.pdf>.
- [16] Isik G and Gunes M. Transferring the heritage of multiculturalism to future: Mardin sample. In: TUCAUM VIII. *Cografya Sempozyumu*, Ankara, October 23–24; 2014. p. 449–62.
- [17] Aydogan M. Medeniyetler diyari bir sehir Mardin. *J Hukuk Gundemi* 2009;2: 67–70.
- [18] Engin S. Mezopotamya'nin yeryuzundeki gastro mirasi Mardin mutfagi ve Mardin gastronomi dunyasi. Project of Public Education Center Directorate; 2015. 184 p.
- [19] DIKA (Dicle Development Agency). Mardin, Bereketli Hilal'in zirvesi. 2011 [cited 04.10.2015]. Available from: [http://www.dika.org.tr/photos/Mardin\\_YDO\\_Katalou.pdf](http://www.dika.org.tr/photos/Mardin_YDO_Katalou.pdf).
- [20] TUIK (Turkish Statistical Institute). 2014 [cited 2015 Oct 4]. Available from: <http://www.tuik.gov.tr/Start.do>.
- [21] Ozgen O and Gonen E. Consumer Behaviour of children in primary school age. *J Consum Stud Home Econ* 1989;13:175–87.
- [22] Kaplan D. The evaluation of the cuisine culture of the students who come from Turkish Republics to Ankara University. University of Ankara; 2006. MSc diss.
- [23] Kizildemir O, Ozturk E and Sariisik M. Changes of Turkish cuisine culture in the historical development. *AIBU J Soc Sci* 2014;14(3):191–210.

- [24] Cetin EC. Gender influence on food preferences and attitudes towards healthy nutrition of adult consumers. University of Ankara; 2007. MSc diss.
- [25] Tarakci Z, Boluk M and Karaagac M. Cheese consumption habits of consumers in Ordu city. *Ordu Univ J Sci Tech*. 2015;5(2):55–62.
- [26] Calis C and Ozcelik AO. Nutrition habits of families in Milas district and its villages. *Turk Mutfak Kulturu Uzerine Arastirmalar. Turk Halk Kulturunu Arastirma Ve Tanitma Vakfi Ankara* 2008;37(15):445–548.
- [27] Toprak L. Mardin and food culture. Mardin Museum Directorate; 2015. p. 221.
- [28] Karakaya E and Inci H. The preferences of poultry meat consumption of household in central district of Bingöl. *J Agri Fac Uludag Univ* 2014;28(1):53–64.
- [29] Mutlu S and Yurdakul O. Consumer behaviors on food safety (a case study on red meat consumption in urban areas of Adana). *Cukurova Univ Inst Natural and Appl Sci* 2008;17(4):49–59.
- [30] Karakus S, Kucukkomurler S and Ekmen Z. Türk kültüründe bulgur. 38. ICA-NAS Int Congr Asian N Afr Stud 2007;1(1):1179–90.
- [31] Gokseven A. Yield, seed and fruit quality of watermelon genetic resources having snack potential. University of Cukurova; 2013. MSc diss.
- [32] Kaya S. Sütten ve yogurttan elde edilen sade yagın reolojik ozellikleri. Türkiye 9. Gıda Kongresi, Bolu, May 24–26. 2006. p. 565–8.
- [33] Topcu AA, Koksal E and Bilgili N. A survey to determine the level of knowledge, beliefs and attitudes in a 15–49 age group housewives on cooking practices. *Turkish Bull Hyg Exp Biol* 2003;60(3):77–86.
- [34] Gunduz O and Esengun K. A research on the vegetable oil consumption of households: a case of Samsun province. *KMU J Soc Econ Res* 2010;12(19):67–72.
- [35] Kilichan R and Calhan H. Spices the magic of cuisines: determination of spice consumption habits in Kayseri province. *J Tourism Gastronomy Stud* 2015;3(2):40–7.
- [36] Yardimci H and Ozcelik AO. The eating habits of women living in Gölbaşı provence of Ankara. *J Soc Policy Stud* 2012;7(28):87–101.
- [37] Ozkosif O and Ozcelik AO. Artvin ili Arhavi ilçesi mutfak kültürü. *Turk Mutfak Kulturu Uzerine Arastirmalar. Turk Halk Kulturunu Arastirma Ve Tanitma Vakfi* 2009;40(16):437–502.
- [38] Buyuksalvarci A, Sapçılar MC and Yilmaz G. Using the local food in tourism companies, sample of Konya. *J Tourism Gastronomy Stud* 2016;4(4):165–81.
- [39] Serceoglu N. Determine the recognition status of the culture of cuisine of the local people: the sample of Erzurum city. *J Tourism Gastronomy Stud* 2014;2(4):36–46.