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FISH CONSUMPTION PREFERENCES OF PEOPLE LIVING IN THREE DIFFERENT SOCIOECONOMIC REGIONS OF KAYSERİ, TURKEY

KAYSERİ'DE ÜÇ FARKLI SOSYOEKONOMİK BÖLGEDE YAŞAYANLARIN BALIK TÜKETİM TERCİHLERİ

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Abstract

Fish is a food that is recommended to be consumed at least twice a week. But the amount of consumption is not at the desired level in our country, Turkey. This study was conducted to determine the amount, frequency, consumption and purchasing preferences of fish consumed by adults at three different socioeconomic levels in Kayseri and to determine consumers' knowledge about healthy nutrition and fish consumption. A descriptive, cross-sectional research study was conducted on 1000 adults living in three different socioeconomic regions in Kayseri province center. Data were gathered by a questionnaire prepared with the support from a literature review. The median weekly fish consumption per capita was 93 g (3–1000) in Kocasinan, 117 g (17–1000) in Talas and 117 g (16–600) in Melikgazi according to the socioeconomic regions. Fish were often consumed freshly and in winter. Only 21.6% of the participants consumed fish 1–2 times a week, as recommended. This rate increased, as the socioeconomic level increased. It is suggested that the accessibility of fish in Kayseri be increased and that studies should be carried out to raise awareness and educate people on the importance of fish consumption and its effects on health.

***Keywords:** Fish consumption, food preference, Kayseri, nutrition, socioeconomic level.*

***Jel Cods:** I10, I12, Q18*

Özet

Balık haftada en az iki kez tüketilmesi önerilen bir besindir. Buna rağmen, ülkemizde tüketim miktarı istenilen düzeyde değildir. Bu çalışma, Kayseri kent merkezinde farklı üç sosyoekonomik düzeyde bulunan yetişkinlerin balık tüketim miktarını, sıklığını, tüketim ve satın alma tercihlerini belirlemek ve tüketicilerin sağlıklı beslenme ve balık tüketimine ilişkin bilgilerini saptamak amacıyla yürütülmüştür. Tanımlayıcı ve kesitsel nitelikteki araştırma Kayseri'de, farklı üç farklı sosyoekonomik bölgede yaşayan 1000 yetişkin üzerinde yürütülmüştür. Veriler literatür desteğinde hazırlanan anket formu ile toplanmıştır. Yetişkinler arasında kişi başına düşen medyan haftalık balık tüketim miktarı sosyoekonomik bölgelere göre sırasıyla Kocasinan'da 93g (3-1000), Talas'ta 117g (17-1000) ve Melikgazi'de 117g (16-600) olarak saptanmıştır. Balık sıklıkla taze olarak ve kış mevsiminde tüketilmektedir. Önerildiği üzere balığı haftada 1-2 kez tüketenlerin oranı sadece %21.6'dır. Sosyoekonomik düzey artıkça bu oranda artış gözükmektedir.

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Kayseri'de balık tüketiminin artırılması için ulaşılabilirliğin artırılması ve balık tüketiminin önemi ve sağlık üzerine etkisi konularında farkındalık ve eğitim çalışmalarının yapılması önerilmektedir.

***Anahtar kelimeler**: Balık tüketimi, besin tercihi, Kayseri, beslenme, sosyoekonomik düzey.*

***Jel Kodları:** I10, I12, Q18*

BRIEF INTRODUCTION

Turkey, a peninsula surrounded by sea on three sides, has rich water resources suitable for aquaculture and fisheries production with its 8,333 km of coastline and 177,714 km long rivers. With the total production of about 588,715 tons in the last years, our country which is at the 30th place in the world is expected to increase its production potential (GTHB, 2018)

Seafood constitutes a part of our nutrition culture. When it comes to seafood, what comes to mind first are the fish varieties. The place of the fish in healthy eating is indisputable. Fish meat contains protein equivalent to red meat and poultry meat such as chicken and turkey. Although its composition is generally similar to red meat, such as cattle, sheep, and goat and poultry meat, fish meat contains less energy than the same amount of red and white meat. It also contains thiamine (B_1), riboflavin (B_2), niacin (B_3), pyridoxine (B_6) and B_{12}, which are some of the group B vitamins that are water-soluble, and vitamin A and vitamin D, which are oil-soluble. Fish and other seafood have a privilege in healthy eating patterns, especially in terms of mineral contents such as iodine and selenium. Fish and the other seafood are rich in omega-3, containing eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA). These fatty acids play an active role in the prevention and treatment of many diseases such as cardiovascular diseases, rheumatoid arthritis, cancer, asthma, Alzheimer and the like, as well as in retina and brain development in infants. Due to its positive effects on health, it is recommended that the consumption of fish should be at least 2–3 servings per week approximately 300–500 g (Turkey Dietary Guidelines 2015, 2016:24).

Kayseri province, which is one of the largest cities of Turkey, is an important center of the Central Anatolia Region for industry, transportation, agriculture, commerce and tourism. Besides that, it has a strong natural and cultural fishery production infrastructure with Kızılırmak and Zamantı Rivers, Bahçelik and Yamula Dam reservoirs and fish ponds in the aquaculture sector. Aquaculture production done in Kayseri through breeding appears to have increased considerably over the years. Leaving behind neighboring provinces with this feature, Kayseri with 11,225 tons of trout production in 2013 ranks second in inland water fish breeding among the landlocked provinces in Turkey. In Kayseri province, which ranks third in trout farming throughout the country and exports most of the trout it produces, 42 companies produced 3,242.50 tons per year in 2017 (GTHB,2018; Kayseri İli Tarımsal Yatırım Rehberi:11).

However, there is limited data on fish consumption and preferences of consumers in Kayseri. At the meeting of the Chamber of Commerce, Professional Committee Meetings on Problems and Suggestions for Solution, it was suggested that fish consumption is inadequate in Kayseri compared to the geoFigureical structure of our country and it should be promoted at least a couple days a week to increase consumption (Kayseri Ticaret Odası, 2015:34).

This study, which was supported by the TUBITAK-2209-A project in 2016, was planned and conducted to determine the amount, frequency, consumption and purchasing preferences of

fish consumed by adults at different socioeconomic levels in Kayseri city center and to determine consumers' knowledge about healthy nutrition and fish consumption.

MATERIALS AND METHODS

This study was descriptive, cross-sectional in nature and was carried out between January and April 2016. The sample of the study was determined to be 937 people under the condition of a 2% error, 0.80 power and α=0.05. In this context, the study was carried out, on the basis of the opinion of a statistical expert, on 1000 randomly sampled adults aged 18-65 who lived in three different socioeconomic regions in Kayseri province center. Participants were divided into three categories according to the region they lived in and their socio-economic level; Kocasinan region was defined as low, Talas as medium and Melikgazi region as high socioeconomic region with the opinion of a Statistics Expert.

Data were obtained by the researchers using the survey method through face-to-face interviews. The questionnaire form, prepared with the support from a literature review, consisted of 31 questions that questioned the participants' socio-demographic characteristics, fish consumption status (amount, type, frequency, etc.), consumption preferences, and purchasing behaviors as well as their knowledge on nutritional content of fish. In this study, especially consumers' consumption of fish was questioned using the food photo catalog (Rakıcıoğlu et al 2014:42). The reason for this was that the most commonly consumed food among seafood in our country is fish (Saygı et al., 2015:248; Yüksel, 2011:28; Nalinci, 2013). The surveys were pre-tested on thirty people and the incomprehensible questions were edited. Prior to the start of the study, the participants were informed about the scope of the research, its purpose, and sharing of the data to be collected, and the verbal approvals of the participants were obtained. The data obtained from the study were evaluated by using the SPSS (Statistical Package for the Social Sciences) computer program in Windows environment. Frequencies, percentages, and mean scores were used in the statistical analysis of the data. Chi square test of independence, ANOVA significance test and Pearson correlation test were used to examine the relationships between categorical variables. The results were accepted at $p<0.05$ significance level in 95% confidence interval (Hayran and Hayran, 2011:95).

RESULTS AND DISCUSSION

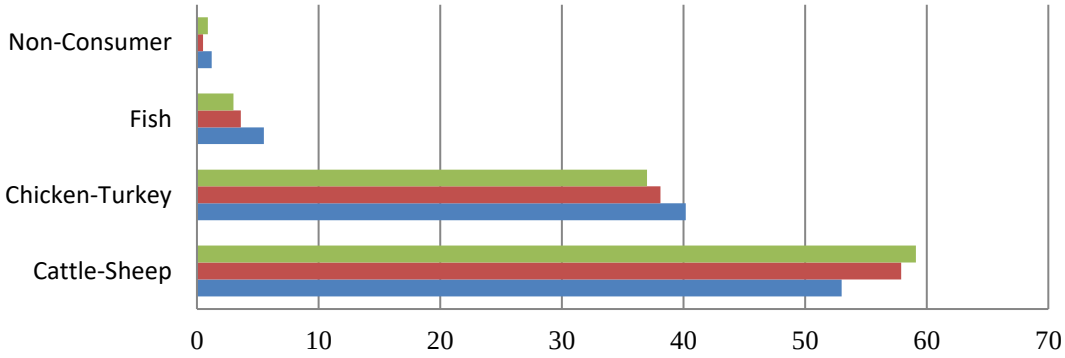
Aquaculture with sufficient potential to meet the increasing nutritional needs of the world has a strategic significance for its being a cheap and quality protein source for the rapidly growing world population. Fish, an important source of protein for human nutrition, is the most consumed aquaculture product. In the world, 6.5% of total protein resources and 17% of animal protein are produced from fish (Sarıözkan, 2016:15). In our country with rich water resources, fish is a healthy option and an opportunity to increase the consumption of proteins of animal origin. To the contrary, the consumption of fish in our country is not at the desired level. While the consumption of annual aquaculture products per capita in our country was 8 kg in 2000, this amount decreased by 5.4 kg/year in 2016 (GTHB, 2018). However, while the average amount of fish consumed in the world is 16 kg per person per year, this amounts to an average of 26 kg in the European Union, 28 kg in the US, 75 kg in Japan and 90 kg in Iceland (Deniz Sektörü Raporu, 2014).

In addition to that, an area's being located on the sea shore is one of the most important factors increasing the consumption of aquaculture products (Myrland et al., 2000:169; Trondsen et al.,

2004:117; Verbeke and Vackier, 2005:67). The per capita consumption of aquaculture products in our country also shows significant differences between regions. Consumption is high in regions with coasts such as Giresun and Trabzon (28.08 kg/year) and İzmir (26.3 kg/year), while consumption is low in internal areas such as Erzurum (6.5 kg/year), Amasya (5.06 kg/year) and Ankara (3.4 kg/year) (Aydın ve Karadurmuş; 2012:18, Elbek ve ark.1997:431; Uzundumlu, 2013:74; Nalinci, 2013; Yavuz ve ark., 2015:73).

The Kayseri province, where this study was carried out, is a city which is far from the coastal regions, it has hosted very successful studies on aquaculture. Nevertheless, there is limited data on fish consumption at the provincial level. In this study, in which fish consumption and preferences were examined, it was seen that beef and lamb meat, chicken and turkey meat were preferred in meat consumption, and there was less space for the fish at different socioeconomic regions (3%, 3.6%, 5.5%, respectively; Figure 1), as in the other provinces of our country (Saygı et al., 2015:248; Yüksel,et al 2011:28; Nalinci, 2013; Aydın and Karadurmuş 2013:57).

Figure1. Meat Consumption* (%)



	Cattle-Sheep	Chicken-Turkey	Fish	Non-Consumer
Melikgazi	59,1	37	3	0,9
Talas	57,9	38,1	3,6	0,5
Kocasinan	53	40,2	5,5	1,2

* p>0.05

Table 1. Distribution of Some Demographic Characteristics of Participant

	Kocasinan		**Talas**		**Melikgazi**		**Total**	
Age (X ± SS)(year)	29.5±14.1		29.8±13.2		31.5±15.6		30.5±14.7	
Gender	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Woman	230	68.0	128	61.8	299	65.9	657	65.8
Man	108	32.0	79	38.2	155	34.1	342	34.2
Total	**338**	**100.0**	**207**	**100.0**	**454**	**100.0**	**999**	**100.0**
				χ2=0.332	p>0.05			
Educational Background								
İlliterate	36	10.7	23	11.1	45	10.0	104	10.4

Primary school	45	13.4	37	17.9	81	17.9	163	16.4
Secondary school	177	52.5	88	42.5	203	44.9	468	47.0
University	79	23.4	59	28.5	123	27.2	261	26.2
Total	**337**	**100.0**	**207**	**100.0**	**452**	**100.0**	**996**	**100.0**
				χ2=0.366	p>0.05			
Income (TL)								
<1000	65	27.7	23	13.7	46	13.8	134	65
1000-3000	107	45.5	105	62.5	186	55.7	398	107
3001-5000	41	17.4	31	18.5	60	18.0	132	41
>5000	22	9.4	9	5.4	42	12.6	73	22
Total	**235**	**100.0**	**168**	**100.0**	**334**	**100.0**	**737**	**235**
				χ2=0.001	p<0.05			

Mean age of the participants was 30.5±14.7, no difference between the groups and majority of participants' educational background was secondary school (52.5%, 42.5%, 44.9% respectively, p>0.05). The participants with high incomes was reside in Melikgazi (12.6%, Table1).

The median weekly fish consumption per capita among adults was 93 g (3–1000g) in Kocasinan, 117 g (17–1000) in Talas and 117 g (16–600) in Melikgazi according to the socioeconomic regions (Table 2).

Table 2: Fish Consumption by Different Socioeconomic Regions

	Kocasinan		**Talas**		**Melikgazi**		**Total**	
Fish consumption (g/week)	93 (3-1000)		117 (17-1000)		117 (16-600)		116 (3-1000)	
				p=0.107				
Consumption frequency	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Never	24	7.1	9	4.3	24	5.3	57	5.7
3-4 times a week	8	2.4	5	2.4	7	1.5	20	2.0
1-2 times a week	70	20.7	44	21.3	101	22.3	215	21.6
Once per 15 days	129	38.3	72	34.8	154	34.0	355	35.6
Once a month	106	31.5	77	37.2	167	36.9	350	35.1
Total	**337**	**100**	**207**	**100**	**453**	**100**	**997**	**100**
				χ2=0.797	p>0.05			
Fish species								
Sea bream	50	15.3	18	8.9	65	14.8	133	13.7
Sea bass	34	10.4	23	11.4	65	14.8	122	12.6

Horse mackerel	13	4.0	5	2.5	22	5.0	40	4.1
Anchovy	155	47.5	109	54.1	193	43.9	457	47.2
Bluefish	3	0.9	2	0.9	7	1.6	12	1.2
Trout	36	11.1	32	15.8	58	13.1	126	13.0
Other	35	10.7	13	6.4	30	6.8	78	8.1
Total	**326**	**100.0**	**202**	**100.0**	**440**	**100.0**	**968**	**100.0**
				χ2=0.098	p>0.05			
Season								
Spring	5	1.5	3	1.5	6	1.4	14	1.5
Autumn	29	9	20	10.3	52	11.9	101	10.6
Winter	271	83.6	161	82.6	351	80.3	783	81.9
Summer	19	5.9	11	5.6	28	6.4	58	6.1
Total	**324**	**100.0**	**195**	**100.0**	**437**	**100.0**	**956**	**100.0**
				χ2=0.917	p>0.05			
Consumption style								
Freshly	293	91	172	87.8	399	91.5	864	90.6
Canned	5	1.6	0	0	11	2.5	16	1.7
Freezing	8	2.5	8	4.1	15	3.4	31	3.2
Salted	8	2.5	8	4.1	7	1.6	23	2.4
Others	8	2.5	8	4.1	4	0.9	20	2.1
Total	**322**	**100.0**	**196**	**100.0**	**436**	**100.0**	**954**	**100.0**
				χ2=0.033	p<0.05			
Cooking method								
Baking	128	39.4	54	27.3	153	34.9	335	34.9
Frying	136	41.9	90	45.4	162	37	388	40.4
Boiling	47	14.5	41	20.7	97	22.1	185	19.3
Steaming	2	0.6	4	2	11	2.5	17	1.8
Grilling	12	3.7	9	4.5	15	3.4	36	3.7
Total	**325**	**100.0**	**198**	**100.0**	**438**	**100.0**	**961**	**100.0**
				χ2=0.006	p<0.05			
Bought place								
Fish markets	182	56.3	101	50.2	234	53.8	517	53.9
Grocery	78	24.1	73	36.3	141	32.4	292	30.4
Convenience store	63	19.6	27	13.5	60	13.8	150	15.7
Total	**323**	**100.0**	**201**	**100.0**	**435**	**100.0**	**959**	**100.0**
				χ2=0.032	p<0.05			

These amounts are well below 300–500g, the recommended amount of fish to be consumed weekly in Turkey Dietary Guidelines-2015 (2016:65). As the education level of the participants increased, the weekly amount of fish consumption and the frequency of consumption increased, while the frequency of fish consumption increased as the level of income increased ($p<0.05$) (Table 3).

Table 3: Relationship between participants' sociodemographic characteristics and fish consumption(r)

	Fish Consumption (g/week)	Fish Consumption Frequency
Educational status	.129*	.1*
Region	.058	.016
Income	.027	.119*

The studies by Yüksel (2011:28), İbiş (2012) and Çolakoğlu et al (2006:387) support this result. Likewise, Yavuz et al. (2015:73) have shown that consumers' sensitivity to prices increases as their level of education decreases in their study, where they identified the possible effects of the socio-economic characteristics of consumers on the consumption of fishery products by using the Non-Linear Canonical Correlation Analysis. However, in some of the other studies carried out in our country, it has been revealed that there is a linear relationship between the income level of the consumers and fish consumption (Yüksel et al.2011:28; Hatırlı et al., 2004:245; Akbay et al., 2013:1; Şen 2017; Erdur, 2016);and, in some others, that there is no such relationship (Menteşe, 2016, Erdal ve Esengül 2008:203).

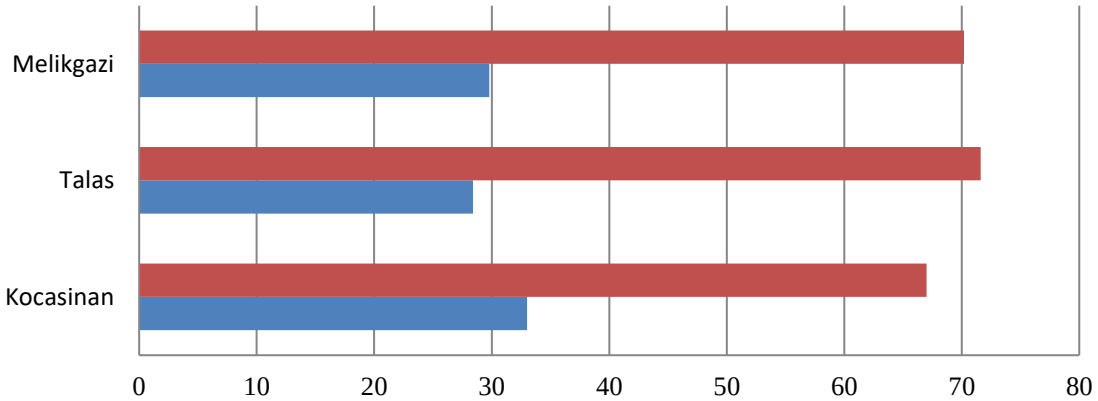
The frequency of food consumption is a frequently used method for determining the nutritional status, nutritional pattern and, if necessary, the changes in the pattern (Pekcan, 2015:70). Dietary Guidelines for Turkey (2015) suggests that fish should be consumed at least 2–3 times a week in a healthy diet because it has high omega-3 fatty acid content. In this study, it was found that 5.7% of the participants did not consume any fish, 35.6% of them consumed fish once every fifteen days and 35.1% consumed fish once a month. Weekly fish consumption was lower in the low socio-economic region. The participants consumed fish mostly once every fifteen days or once a month. Only 21.6% of the participants consumed fish 1–2 times a week, as recommended. This rate increased, as the socioeconomic level increased ($p>0.05$) (Table 2).

The frequency of fish consumption was found to be insufficient also in other studies conducted in our country. In Nutrition and Health Survey of Turkey 2010 which was carried out at national level, the rates of people who were non-consumers, consuming once a month, and consuming once every fifteen days were found to be 39.2%, 25.6%, and 14,8% respectively, the rate of those who consumed 1–2 times a week, as suggested, was 17.2% (Nutrition and Health Survey of Turkey 2010,2014:192). This is especially the case in studies regional in nature, in remote areas away from coastal regions (Abdikoğlu, 2015; Menteşe, 2016; Balık et al., 2013:18; Saygı et al, 2015:248). However, Şen and Şahin (2017:33) determined that fish were consumed more

frequently in the work they did in Mersin province where accessibility is easier and that 43% of the participants ate fish every week. Likewise, Orhan and Yüksel (2010:1) stated that 41% of participants consumed fish every week in their study conducted in Burdur province located in the lakes region.

The vast majority of the participants thought that they did not consume sufficient amount of fish. The socio-economic level did not affect this result (67%, 71%, 70.2%, respectively, $p<0.05$, Figure 2).

Figure2. People Who Think Consume Enough Fish *(%)

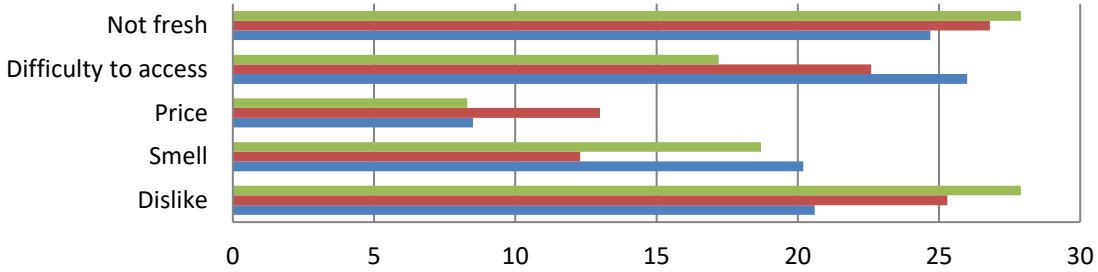


	Kocasinan	Talas	Melikgazi
No	67	71,6	70,2
Yes	33	28,4	29,8

* p>0.05

The fact that the consumption of fish was below the recommended amounts necessitates questioning its reasons. In this study, the reasons for the inadequacy of fish consumption were specified to be disliking fish, inability to find fresh fish and the difficulties in transportation (Figure 3). Besides that, interestingly, price was not considered as an important factor in the consumption of fish and did not make a significant difference according to different socioeconomic regions ($p>0.05$) (Figure 3). On the other hand, Şen (2017) found that high fish prices reflect negatively on fish purchasing and consumption in low-income populations in Mersin. Besides, it is important to ensure that every part of the society reaches fish, which is recommended to be consumed in every age group for its nutritious character.

Figure3. The Main Reasons for Not Consuming Fish*(%)



	Dislike	Smell	Price	Difficulty to access	Not fresh
Melikgazi	27,9	18,7	8,3	17,2	27,9
Talas	25,3	12,3	13	22,6	26,8
Kocasinan	20,6	20,2	8,5	26	24,7

* p>0.05

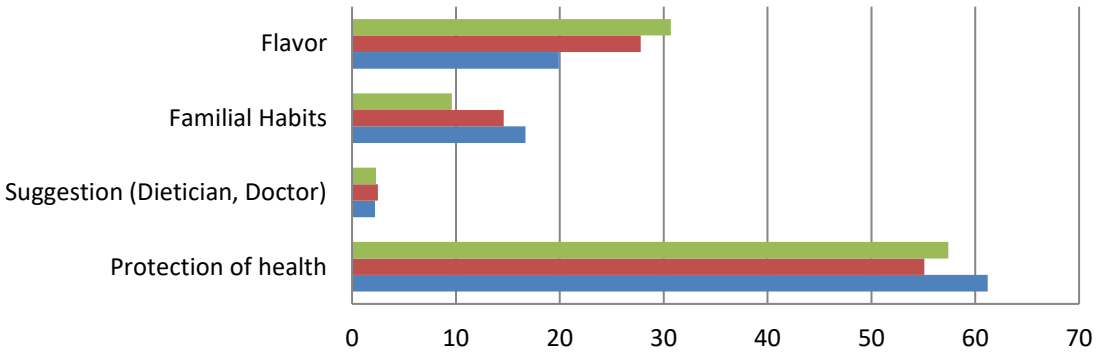
In this study, fish were frequently consumed freshly as socioeconomic levels (91%, 87.8%, 91.5%, respectively) and in winter (83.6%, 82.6%, 80.3%, respectively), although there are sufficient amounts and variety of fish in the geography our country in every season. Canned, salted and freezing methods and consumption as processed products were not preferred (Table 2). Similar results were seen in other studies, as well (Şen, 2017; Yüksel, 2011:28; Aydın and Karadurmuş, 2012:18; Yavuzcan et al.,2010:10; Orhan and Yüksel, 2010:1, Terin et al 2016:241). In many countries, however, fish are food that is easy to access, easy to prepare and quick to eat, and methods such as canned, smoked and salted fish are often preferred by consumers. The use of these methods facilitates the availability of fish in the society and contributes to the increase of consumption. The availability of places where the fish can easily be bought is also an important influence on accessibility. In this study, the consumers obtained fish mostly from fish markets and groceries (53.9% and 30.4%, respectively). However, it was stated by the participants that this was not enough, and there was difficulty in reaching the fishery especially where the socioeconomic level was low (Figure 3). It is a principle that people should be given access to food produced in nutritious, safe and environmentally sustainable conditions, which is one of the basic principles of food safety at all times and in sufficient amounts for everyone. This is also true for fish, and the responsibility for this is in the hands of institutions that set policies and govern the processes. The food authority in our country should accelerate the work in this regard.

Consumers in our country prefer fish species that they can reach. Pearl mullet is preferred in Van, sea bream and sea bass in Izmir and Mersin, bluefish in Çanakkale, and trout in Burdur (Terin, 2016:241; Saygı et al:248., 2015; Çolakoğlu et al., 2006:387; Orhan and Yüksel, 2010:1). Anchovy is more preferred in the inner regions far from the shore (Yüksel, 2011:28; Nalinci 2013; Erdal ve Esengün 2008:203; Oğuzhan, 2009:1; Adıgüzel, 2009:35). In this study, while 46.7% of the participants preferred anchovy as their fish of choice, consumption of trout, which is very common aquacultured in Kayseri, was preferred by only 13%.

Fish is a healthy nutrient that has to take place in our nutrition, but the nutrient property of fish is reduced when proper cooking methods are not used. It is recommended to cook fish by grilling, baking and steaming in Dietary Guidelines for Turkey 2015 (2016). Most of the individuals who participated in the study preferred frying as a method of cooking fish (40.4%). This was followed by the baking method (34.9%). The participants who preferred steaming most (22.1%) and who preferred frying the least (37%) were the ones who lived in the high socioeconomic region (Table 2) ($p<0.05$). Similarly, Nutrition and Health Survey of Turkey 2010 (2014) and other studies show that fish is cooked commonly by frying (Saygı, 2015:248; Çolakoğlu et al, 2006:387; Aydın and Karadurmuş 2012:18, Orhan and Yüksel, 2010:1, Terin et al 2016:241). The frying of fish in oil in our country stands out as a faulty cooking practice. The frying method should not be preferred, as the autoxidative reactions cause the formation of polar and polymer products. Consumers should be informed about this.

Among fish consumers, the protection of health was the first reason for preference. This was considered to be even more important in the Kocasinan region, which is classified as having a low socioeconomic level. The fact that fish is delicious was the second most important choice in all regions. This rate was highest in Melikgazi, which is classified as socioeconomically high ($p<0.05$) (Figure 4). Yavuz and his colleagues (2015:73) also concluded that as the level of income increases, the flavor factor becomes important.

Figure4 . The Main Reasons for Consuming Fish*(%)



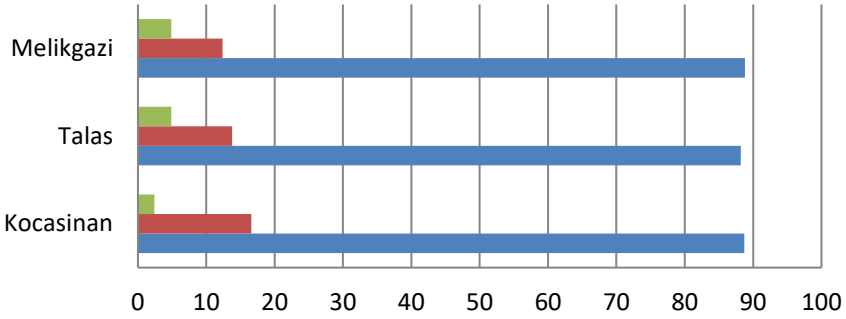
	Protection of health	Suggestion (Dietician, Doctor)	Familial Habits	Flavor
Melikgazi	57,4	2,3	9,6	30,7
Talas	55,1	2,5	14,6	27,8
Kocasinan	61,2	2,2	16,7	19,9

* $p>0.05$

Especially fatty fish are very rich in fatty acids of n-3 (omega 3). Dietary intake of sufficient amounts of n-3 fatty acids is important for the prevention of cardiovascular diseases and for the development of brain in children. In this study, when the participants were asked about the

nutritional content of the fish, most of them stated that fish was rich in omega fatty acids and vitamins but they stated that they did not have sufficient knowledge about its effects on cardiovascular health and brain development (Figure 5).

Figure 5. Knowledge Level *(%)



	Kocasinan	Talas	Melikgazi
Effect on brain development	2,4	4,9	4,9
Effect on cardiovascular health	16,6	13,8	12,4
Nutritional content	88,7	88,2	88,8

* p>0.05

There was no statistically significant difference between regions in this respect. It is important for the consumers to have enough knowledge which can become a behavior in this regard so that they can make healthy food choices. In their study, Konakman(2004) and Soylu (2016) found that the level of knowledge and nutrient consumption of women who were given face-to-face nutrition education and education documents were increased.

Fish consumption in Kayseri was well below the recommended amounts. Studies on awareness and education in terms of increasing accessibility to fish in different sociodemographic regions of the community, and importance of fish consumption and its impact on health will be beneficial for increasing consumption of fish, which is unquestionable for optimal nutrition and recommended by health authorities to be consumed for all age groups.

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