

Bursa ilindeki tüketicilerin yumurta tüketim bilincinin belirlenmesi*

Sezai ALKAN^{1*}, Özlem BERBER¹

¹Ordu Üniversitesi, Ziraat Fakültesi, Zootekni Bölümü, Ordu/Türkiye

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Sorumlu yazar: Sezai ALKAN, e-posta: sezaialkan61@gmail.com

Öz

Amaç: Bu çalışmada, Bursa ilindeki tüketicilerin yumurta tüketim bilinç düzeylerinin belirlenmesi amaçlanmıştır.

Materyal ve yöntem: Bu amaçla, 2019 yılında Bursa ilinde ikamet eden vatandaşlardan basit tesadüfi örnekleme yoluyla belirlenen 460 kişi ile yüz yüze yapılan anketlerden elde edilen veriler kullanılmıştır.

Araştırma bulguları: Çalışmada ailelerin %37.6'sı 4 kişiden ve %31.1'i 3 kişiden oluşmuştur. Tüketicilerin %5.2'sinin ilkökul, %6.7'sinin ortaokul, %22.8'inin lise ve %65.2'sinin üniversite mezunu olduğu belirlenmiştir. Tüketicilerin %90.2'si yumurtanın etiketinde bulunan harflerin ne anlama geldiğini bildiğini belirtmiştir. Tüketicilerin %88.3'ünün yumurta üretim sistemleri hakkında bilgi sahibi oldukları belirlenmiştir. Aynı zamanda tüketicilerin %59.3'ü serbest sistem yumurta tavukçuluğunun diğer sistemlerden daha iyi olduğunu ifade etmiştir. Tüketicilerin %80.4 ü organik ya da serbest sistemde üretilen yumurtalar hakkında yeterince tanıtım yapılmadığını belirtmiştir. Yine tüketicilerin %44' ü organik ya da serbest sistemde üretilen yumurtaların fiyatını etkileyen en önemli faktörün yüksek üretim maliyeti olduğunu ifade etmiştir. Tüketicilerin %69.3' ünün organik ya da serbest sistemde üretilen yumurtaları daha sağlıklı buldukları için tercih ettikleri tespit edilmiştir. Tüketicilerin %48' i yumurta üreten ya da satan işletmelerin yeterince denetlenmediğini ifade etmiştir. Ayrıca, tüketicilerin %57'si kovid-19 vakalarının yumurta tüketimlerini etkilemediğini, buna karşın %26.1'i ise yumurta tüketimlerini arttırdığını belirtmiştir. Aynı zamanda, tüketicilerin %77.4'ü kovid-19 vakalarının yumurta fiyatlarını arttırdığını ifade etmiştir.

Sonuç: Yazılı ve görsel basında zaman zaman yumurta tüketimine karşı propagandalar yapılmaktadır ve bu propagandalar yumurta tüketiminin azalmasına neden olmaktadır. Bu nedenle tüketim düzeyini daha da artırabilmek için yumurtanın yeterli ve dengeli beslenmedeki yeri ve önemi anlatılmalıdır.

Anahtar kelimeler: Yumurta, Anket, Tüketici bilinci, Bursa ili

Determination of egg consumption consciousness of consumers in Bursa province

Abstract

Objective: In this study, it is aimed to determine the egg consumption consciousness of consumers in Bursa.

Materials and methods: For this purpose, data obtained from face-to-face surveys with 460 people determined by simple random sampling from citizens residing in Bursa province in 2019 were used.

Results: In the study, 37.6% of the families consisted of 4 people and 31.1% of them were 3 peoples. It has been determined that 5.2% of the consumers are primary school graduates, 6.7% are secondary school graduates, 22.8% are high school graduates and 65.2% are university graduates. 90.2% of consumers stated that they knew what the letters on the egg label meant. It has been determined that 88.3% of consumers have knowledge about egg production systems and 59.3% of consumers stated that free-range system was better than other egg production systems. Also, 80.4% of consumers stated that there is not enough promotion about eggs produced in organic or free-range system. Again, 44% of

consumers stated that the most important factors affecting the price of eggs produced in an organic or free-range system is the high production cost. It was determined that 69.3% of consumers prefer organic or free-range eggs because they find them healthier. In addition, 57% of consumers stated that covid-19 cases did not affect their egg consumption, while 26.1% stated that they consumed more eggs. Moreover, 77.4% of the consumers stated that the cases of covid-19 increased egg prices.

Conclusion: From time to time, false propaganda is made in the written and visual media against egg utilization leading to a decrease in consumption. For this reason, the importance of eggs in adequate and balanced nutrition should be explained by authorized people or institutions in order to increase the consumption level even more.

Keywords: Egg, Surveys, Consumer Consciousness, Bursa province

Giriş

Introduction

Egg is a food that people have consumed fondly since ancient times. In the early ages, people collected bird eggs from nature and consumed them. Later on, egg consumption for humans increased gradually due to the domestication of hens. Scientific and technological developments in the poultry industry have enabled more and more economical production of eggs. Thus, eggs have become an essential nutrient for humans. Today, eggs are easily accessible for consumption (Altan, 2015; Türkoğlu and Sarıca, 2009).

Due to its natural structure, the egg is a "protected" food that cannot be cheated. An egg is a food that contains all the essential nutrients required for adequate and balanced nutrition. Eggs, which have the best protein quality among animal products, are rich in A, D, E, K, and B group vitamins besides the minerals such as iron and phosphorus (Alkan and Derebaşı, 2018; Türkoğlu and Sarıca, 2009). In addition, it has an important place in the nutrition of the elderly, patients, and people on a diet because it is easily digested and has a low caloric value. Due to the fact that egg protein is rich in essential amino acids, its biological value is accepted as 100. For this reason, this trait of the egg is used as a standard in determining the quality of other foods (Altan, 2015; Türkoğlu and Sarıca, 2009; Parlakay et al. 2017; Alkan and Derebaşı, 2018). Determining consumer

preferences in terms of egg consumption can ensure that the necessary processes are carried out more carefully from the egg production stage to consumption. In this way, consumers can get better quality and healthier eggs. Understanding the purchasing preferences of eggs, which play an essential role in human nutrition, is essential for establishing breeding and feeding models (Alkan and Derebaşı, 2018; Kızıloğlu et al. 2013).

Bursa, where the survey was done, has 107 poultry houses and 6.139.251 laying hens in 30 closed commercial enterprises. Again, there are 29 henhouses and 54.540 laying hens in 29 open commercial enterprises, whereas there are 50 henhouses and 772.000 laying hens in 10 breeder enterprises (Anonymous, 2019).

Significant for determining breeding and feeding models in poultry and developing new strategies is understanding consumers' attitudes about eggs, which play an important role in human nutrition. The purpose of this study was to investigate the egg consumption awareness of Bursa residents. The fact that such a study has not been conducted in Bursa is also significant in terms of the study's originality.

Material and method

Material

In this study, face-to-face interviews were used as data collection methods and surveys were used as data collection tools. The surveys were conducted in Bursa between January and June 2021.

Method

The scope of the study consisted of citizens residing in the province of Bursa in 2021. In this study, surveys were conducted with a total of 460 people determined by simple random sampling. The equation used is given below (Akbaş et al. 2007).

$$n = (t^2 * p * q) / d^2$$

n: Sample size,

t² = Confidence coefficient (this coefficient was taken as 1.96 for 95% confidence),

p = Ratio value of the population (0.50),

q = 1 - p = 0,50,

d² = Accepted sampling error.

Statistical analysis

The frequency values (n and %) of the answers given by the consumers were calculated. All calculations were made with SPSS statistical package program (SPSS, 2008).

Results and discussion

Demographic characteristics of participants

Frequency values (n and %) related to demographic characteristics of the participants are given in Table 1.

In this study, there were 45.9% male participants and 54.1% female participants.

At the same time, 37.6% of families consisted of four members and 31.1% of families consisted of three members. Again, it was established that the average household size was 3.59 individuals. 62.9 % were between the ages of 35 and 54, and 68.7 % of them were employed, while 18 percent of the unemployed were housewives. While 5.2% of the participants had completed elementary education, 6.7% had completed middle school, 22.8% had completed high school, and 65.2% had completed university. 28.7% of the participants in the study are public servants, 4.1% are students, 9.8% are employees, 8.3% are self-employed, 6.3% are retired, and 6.3% are from other professional categories. It was revealed that 71.3% of the participants owned a home, whilst 80.2% resided in apartments. While 28% of participants reported having an income between 3501 and 5.500 Turkish Lira, 53% reported having 5501 TL or more. It has been determined that 53.6% of the participants spend between 100 and 1500 TL per month on food.

Findings

The findings regarding the determination of the egg consumption consciousness level of the consumers are given in Table 2.

Egg quality is divided into two classes as A and B. Eggs in the B class are used in the food industry. There is a letter system used all over the world, in which class A eggs are classified according to their weight. According to this system, the letters as XL, L, M and S point out the extra-large, large, medium and small egg weight class, respectively.

In this study, 90.2% of the consumers stated that they knew what the letters on the egg label meant. At the same time, the majority of the consumers reported that the letters express the size or weight of the egg and that these letters are also used in clothes. Based on this result, we can say that the level of consciousness of consumers is quite high on this issue. Also, 88.3% of consumers stated that they have sufficient knowledge about egg production systems. Again, it has been determined that 38.7% of the consumers knew free-range egg production system, 18.3% of the consumers knew organic egg production

system, 5% of the consumers knew conventional egg production system and 26.3% of the consumers knew all systems. However, when consumers were asked orally what organic and free-range system hen eggs were, it was observed that most of them perceive them as eggs not produced in cage or produced in village conditions. Again, 70.4% of consumers stated that organic or free-range system hen eggs have a richer nutrient content than the other systems, and 98.1% stated that they found eggs produced in organic and free-range egg production systems more delicious. However, it has been determined that consumers do not know that organic egg production system must have a certificate and that it has to be produced according to organic farming rules. In a study conducted by Mızrak et al., (2012), it was determined that 72.40% of consumers did not have enough information about organic eggs, whereas, Durmuş et al. (2007) stated that 87.20% of consumers did not have information about organic eggs. On the contrary, in another study conducted by İskender and Kanbay (2014), it was determined that 81.20% of consumers had knowledge about organic eggs. Alkan and Derebaşı (2018) determined that 50.44% of consumers have knowledge about organic eggs in their study.

In this study, 80.4% of consumers stated that there is not enough promotion about organic or free-range egg production system. Consumers should be adequately informed about this issue by the relevant person or institutions. 44.3% of consumers stated that the most important factor affecting the price of eggs produced in an organic or free-range is the cost of production. For this reason, additional studies should be carried out by the relevant institutions in order to reduce the production costs of the eggs produced in these systems as much as possible. At the same time, 63.9% of consumers stated that they consume organic or free-range eggs because they find it healthier. Again, in this study, it was determined that 71.1% of the consumers did not know the conventional egg production system. This finding indicates that there is not enough consciousness about the conventional egg production system in the society. Again, 33.3% of consumers reported that changes in egg price affected egg consumption, whereas 62% reported that they did not. This result differs from the results obtained in many studies on the subjects (Fearneand Laverne, 1996; Özçiçek, 2003; Goddart et al., 2007; Mesias et al., 2011).

Table 1. Demographic characteristics of the participants

No	Demographic characteristics	Options	Frequency	
			n	%
1	Participants' gender	Female	249	54.1
		Male	211	45.9
		Total	460	100
2	Participants' age (years)	Between 18-24	29	6.3
		Between 25-34	97	21.1
		Between 35-44	176	38.3
		Between 45-54	113	24.6
		Between 55-64	40	8.
		65+	5	1.1
	Total	460	100.0	
3	Educational status of the participants	Primary school	24	5.2
		Secondary school	31	6.7
		High school	105	22.8
		University	300	65.2
		Total	460	100.0
4	Occupation of the participants	Worker	45	9.8
		Civil servant	132	28.7
		Self-employment	38	8.3
		Retired	29	6.3
		Unemployed	4	0.9
		Housewife	80	17.4
		Student	19	4.1
		Tradesmen	29	6.3
		Other	84	18.3
	Total	460	100.0	
5	Employment status of the participants	Yes	316	68.7
		No	144	31.3
		Total	460	100.0
6	Ownership status of the house	Homeowner	328	71.3
		Tenant	132	28.7
		Total	460	100.0
7	Type of house	Apartment	369	80.2
		Single house	91	19.8
		Total	460	100.0
8	Number of people in the household	1	15	3.3
		2	49	10.7
		3	143	31.1
		4	173	37.6
		5	62	13.5
		6+	18	3.9
	Total	460	100.0	
9	Participants' total monthly income (TL)	Minimum wage or less	33	7.2
		Between 2825-3500	55	12.0
		Between 3501-4500	63	13.7
		Between 4501-5500	65	14.1
		5500 and above	244	53.0
		Total	460	100.0
10	Participants' monthly food expenditure amount (TL)	Between 250-500	14	3.0
		Between 501-750	46	10.0
		Between 751-1000	49	10.7
		Between 1001-1500	90	19.6
		Between 1501-2000	84	18.3
		Between 2001-2500	72	15.7
		Between 2501-3000	46	10.0
		3001 and above	59	12.8
	Total	460	100.0	

It is thought that this result is due to the fact that the egg is seen as a product that must be placed in the kitchen of Turkish society, regardless the price of the egg. Especially, mothers are conscious of not sending their children to school without having eggs for breakfast.

According to the results of this study, 93.5% of the consumers stated that the programs on eggs and cholesterol on television did not have a negative effect on egg consumption. Again, 37.4% of consumers stated that eggs do not affect the amount of cholesterol in the human body. This result shows that some of the consumers in the research area have sufficient consciousness about egg cholesterol. However, more studies should be carried out in a short time in order to create sufficient consciousness in all people on the subject. The result of this study is similar to the result obtained from the study conducted by Güneş and Albayrak (1997). Furthermore, 48% of the consumers stated that they

did not find the controls and inspections carried out in egg production enterprises sufficient, and 46.5% stated that they did not have an opinion on this issue. This result is consistent with the result obtained in the study by Mızrak et al., (2012). Besides, 48.9% of consumers stated that they believed that eggs were produced under healthy conditions. It has been determined that 30.2% of the consumers do not find the introductory information on the packaging and labels of eggs understandable. Therefore, it is necessary to be more sensitive about the understanding of the information on the packaging and label of the egg.

In this study, 60.9% of consumers stated that selling dirty eggs in the markets is a marketing strategy and 19.3% stated that they are village eggs. It has been determined that a significant portion of consumers have a high level of awareness about dirty-looking eggs. In addition, 77.4% of consumers stated that covid-19 cases increased egg prices.

Table 2. Findings related to the consciousness of the participants' egg consumption

Number	Questions	Options	Frequency	
			n	%
1	Do you know what the letters S, M, L, XL on the label of the egg mean?	Yes	415	90.2
		No	45	9.8
		Total	460	100.0
2	Do you know about egg production systems?	Yes	406	88.3
		No	54	11.7
		Total	460	100.0
3	Which egg production systems you know?	Organic system	84	18.3
		Free range system	178	38.7
		Conventional system	23	5.0
		All	121	26.3
		Total	460	100.0
4	Which egg production system do you think is the best?	Organic system	180	39.1
		Free range system	273	59.3
		Conventional system	7	1.5
		Total	460	100.0
5	Do you have any information about the eggs produced in organic or free system?	Yes	356	77.4
		No	104	22.6
		Total	460	100.0
6	Is there enough publicity about the organic or free range egg production system?	Yes	90	19.6
		No	370	80.4
		Total	460	100.0
7	What is the most important factor affecting the price of eggs produced in an organic or free range system?	Difficult production	65	14.1
		High cost	204	44.3
		Less production	191	41.5
		Total	460	100.0
8	Why do you prefer eggs produced in organic or free system?	Better than others	23	5.0
		More delicious	69	15.0
		I do not prefer	16	3.5
		More fresh	35	7.6
		More healthy	294	63.9
		I have no idea	23	5.0
Total	460	100.0		

Table 2. Findings related to the consciousness of the participants' egg consumption (continued)

9	Do you have information about the conventional egg production system?	Yes	133	28.9
		No	327	71.1
		Total	460	100.0
10	Which egg is more delicious?	Organic system	176	38.3
		Free range system	275	59.8
		Conventional	9	2.0
		Total	460	100.0
11	Is there any difference in terms of nutrients of eggs between produced in organic or free range system and other egg production systems?	Yes	31	6.7
		No	324	70.4
		I have no idea	105	22.8
		Total	460	100.0
12	Does the increase or decrease in the price of eggs affect your consumption amount?	Yes	153	33.3
		No	285	62.0
		I have no idea	22	4.8
		Total	460	100.0
13	Do the egg-cholesterol programs on television affect your egg consumption?	No	430	93.5
		Increased	12	2.6
		Reduced	18	3.9
		Total	460	100.0
14	Are the inspections of enterprises which producing or selling eggs adequately?	Yes	25	5.4
		No	221	48.0
		I have no idea	214	46.5
		Total	460	100.0
15	Do you trust that the eggs you buy are produced under healthy conditions?	Yes	225	48.9
		No	161	35.0
		I have no idea	74	16.1
		Total	460	100.0
16	Do you find the information on the packaging or label of the egg understandable?	Yes	204	44.3
		No	139	30.2
		I have no idea	117	25.4
		Total	460	100.0
17	What do you think about the relationship between eggs and cholesterol?	Increases cholesterol	77	16.7
		Does not affect cholesterol	172	37.4
		I have no idea	204	44.3
		Reduced cholesterol	7	1.5
		Total	460	100.0
18	What do you think about the dirty eggs brought to the market?	It is a village egg	89	19.3
		It is organic egg	13	2.8
		It is a marketing strategy	280	60.9
		I have no idea	78	17.0
		Total	460	100.0
19	Does the dirty appearance on the egg affect your purchasing behaviours?	Do not affect	318	69.1
		Positively effect	43	9.3
		I have no idea	99	21.5
		Total	460	100.0
20	Did the Covid-19 cases affect the egg price?	Increased egg prices	356	77.4
		Reduced egg prices	11	2.4
		Does not affect egg prices	22	4.8
		I have no idea	71	15.4
		Total	460	100.0

Conclusion

The meaning of letters such as S, M, L, XL on egg labels is known by most of the consumers. This result can be considered as an indication that consumers have sufficient knowledge and consciousness on this issue. The increase or decrease in the price of the egg did not significantly affect the egg consumption of the consumers. Egg is one of the traditional foodstuffs in the kitchen of Turkish society. For this reason, regardless of the price of the egg, it definitely takes place on the table. Especially most of the mothers do not send their children to school without consuming eggs for breakfast. A significant portion of consumers stated that selling dirty eggs in markets is a marketing strategy. However, not all consumers are conscious of this issue.

For this reason, consumers should be adequately made consciousness of the dirty-looking eggs sold in the markets. Recently, consumers have stated that the cases of covid-19 have increased the price of eggs. At the same time, 44.3% of consumers stated that they have no idea about the egg-cholesterol relationship. This result shows that the level of knowledge and consciousness of consumers on this issue is not sufficient. From time to time, false propaganda is made in the written and visual media that eggs contain high levels of cholesterol and that they cause cardiovascular diseases by increasing blood cholesterol levels. These negative propagandas cause a decrease in egg consumption. For this reason, the importance of eggs in adequate and balanced nutrition should be explained by authorized people or institutions in order to increase the consumption level even more.

Conflicts of Interest

The authors declare no conflicts of interest.

Authorship contribution statement

SA: Interpretation of data, analysis of data and article writing.

ÖB: Collecting of data, analysis of data and article writing.

Kaynaklar

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