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DETERMINATION OF RED MEAT CONSUMPTION AND MEAT CONSUMPTION HABITS. THE CASE OF ISPARTA PROVINCE

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Abstract

In this study, red meat consumption preferences and factors affecting consumption were investigated according to income status of families living in urban areas in Isparta province, Central district. Face - to - face interviews were conducted with 320 households living in the urban area and the data were collected by questionnaire from January to March 2013. Households were divided into 3 different income groups according to their monthly incomes (households with 0-1,600 Turkish Lira (TRL), 1,601 - 3,500 TL and over 3,501 TL). Demographic characteristics, places of purchase, frequency of consumption, and reasons for branded product preferences were explored in the study. In addition, the relationship between socio-economic and demographic characteristics of consumers and red meat consumption was analysed by chi-square test.

Key words**:** *red meat consumption, consumer preferences, Chi-Square test, Isparta*

INTRODUCTION

The livestock sector contributes directly and indirectly to many sectors, mainly wholesalers, retailers, food&beverages services and refrigerated transport, as well as feed producers, equipment manufacturers in the whole supply chain. Through domestic consumption and foreign trade, livestock sector has an important share in gross domestic product (GDP of the countries and therefore, the livestock sector is an indispensable sector for each country. Consumption of animal-derived nutrients is at most importance to human health and nutrition. It is suggested by nutritionists that about half of the daily protein that should be consumed for healthy and balanced nutrition is made up of animal-derived proteins.

Proteins are nutrients that cannot be stored in the body and must be taken from the outside. In terms of the amount of protein contained in basic food stuffs, animal foods are at the forefront. In Turkey, animal foods are a frequently consumed food source. The amount of protein in animal foods: meat 15-20%, in fish 19-24%, in egg 12%, in milk 3-4%, in cheese 15-25%. For this reason, milk, eggs, white meat and red meat should be consumed on a daily basis. Scientific researches emphasize that at least 40-50% of the per capita protein need for adequate, healthy and balanced nutrition should be provided mainly from food materials of animal origin consisting of red meat and white meat (Gökalp, 1984; Göğüş, 1986) [3,4].

Meat is generally referred as the consumption of an animals' tissues as food. Red meat falls under meat category obtained from cattle and sheep and white meat falls under the meat category obtained from animal species such as chicken and fish. Generally, meat and animal protein consumption per capita is regarded as an important criteria when the development level and living standards of the countries are determined (Yaylak et al., 2010) [16].

In developed countries, 70% of the daily protein consumption comes from animal food, whereas in Turkey, 73% of the daily protein requirement is met by herbal products (TAGEM, 2010) [13]. Furthermore daily animal meat consumption is calculated as 60 gr in developed countries, 25 gr in developing countries and 12 gr in less developed countries (Güneş, 2016) [6].

According to 2015 data in Turkey; there are 41,924,100 sheep, goats and 14,127,837 cattle in Turkey. Total red meat production in Turkey was 1,149,262 tons in 2015. The number of sheep was 75.15% (31,507,934),

the number of goats was 24.85% (10,416,166), the number of cattle was 99.05% (13,994,071) and the number of buffalo was % 0.95 (133,766). The 88.31% of total red meat comes from cattle, 8.70% from sheep, 2.95% from goat and 0.04% from buffalo meat (TUİK, 2017).

Meat is considered as an important source of animal protein and besides it is a vital source for healthy physiological growth of especially children and. Red meat is also more expensive than white meat and fish in almost every part of the world, as it is tasty and can be consumed in a wide variety of forms and the digestion rate is high. Higher prices cause people in low income group to reduce their meat consumption and even cannot meet adequate daily protein needs (Atay et al., 2004) [2].

First of all, in addition to increase meat consumption, it is also important to determine the factors that affect meat demand of consumers. In Turkey beef and veal consumption per capita is 7.85 kg, 25 kg in the US, 19 kg in Canada, 22 kg in Australia and 10.5 kg in the European Union (Güneş, 2016) [6]. Therefore, per capita meat consumption in Turkey is still considered low. In Turkey there are some factors that affect meat demand and consumption. The differences? in the number of animals in the country, price instability, production technology, product deterioration, storage conditions, health conditions, lack of food safety, increase in feed prices, cultural structure, education level, national income, income level, consumer habits and consumer preferences. There are reasons that affect supply as well. Today, main factor that affects the meat consumption is price instability. This affects producers-consumers, producers, industrialists and industrial consumers' relations (Güneş, 2016) [6].

The consumption habits of foodstuffs may vary from country to country, from region to region, or even from culture to culture. In Turkey, Many studies are made to determine the behaviours of consumers about meat consumption have been done with varying numbers of participants in different age groups, professions and income groups (For example; Mutlu, 2007 in Adana) [10].

This study was carried out to examine consumption levels and consumption patterns of red meat in urban area consumers in central district of Isparta province. Because, a healthy life can only be achieved with adequate and balanced nutrition. This research was conducted to determine consumers' consumption levels of red meat and the red meat consumption habits and patterns of consumers in Isparta. In this regard; "What are the problems that are encountered when too much red meat is consumed?", "How much red meat should be consumed"? What is the ideal amount for health living? In addition, the relationship between the consumption of red meat and the income level, education and the demographics of the consumers are also considered.

MATERIALS AND METHODS

Main findings of the study were obtained by questionnaire from the households living in central urban area of Isparta province. In addition, research results and statistical information about the subject were also utilized. In marketing research, different sample sizes are used for different main mass sizes and tolerance levels in practice (Kurtuluş, 1998) [6].

For the study, with the assumption that at least 70% of households residing in the urban area consumed meat and products, this average 70% to ± 0.05 could be wrong (ie 0.65 and 0.75) and 95%. The size of the house was taken as 321 households according to Kurtuluş (1998) [6].

The data were gathered by personal interview with the prepared questionnaire. A survey was conducted in 44 districts considering the varying socio-economic development levels in the province centre. The number of surveys conducted in each neighbourhood was proportionally distributed considering the population situation. The survey was conducted on February 2013.

The data obtained by the questionnaire were transferred to the electronic environment and the calculations were made using statistical package programs. Monthly income levels of

the households were taken into consideration while creating cross tabulations on the data. The data were assessed and interpreted taking into account the income groups and the group average. In the statistical analysis, the relationship between the income level and the red meat consumption habits, the education level and the red meat consumption habits, and the number of individuals in the family and consumption habits were examined by the χ^2 (Chi square) test. Variance analysis was performed on continuous data.

RESULTS AND DISCUSSIONS

Characteristics of interviewed individual

Demographical and economic characteristics of consumers and their respective families should be screened separately. The understanding of socio-demographic characteristics generally provides a clearer understanding of changes in preferences and behaviours of consumers (Mucuk, 2001) [9]. For this reason, the demographic and economic characteristics of households interviewed before deepening consumers' attitudes and behaviours for red meat and meat products were surveyed.

Household income groups were formed in this study because consumer behaviours may be different according to income groups. According to this situation, the ones with the income of 1,600 TL per month have low income (Group I), those with the income between 1,600-3,500 TL were the middle (Group II) and those with the income 3,500 TL or more had was grouped as the high income (Group III). The 51.2% of interviewed households were found to have middle income, 25.3% had low income and 23.5% had high income level.

The 50.67% of the interviewed individuals were female, 49.33% were male and 12.5% of the households had a baby. 68.44% of the interviewed family members were married, 25.63% were single, 3.75% lost their husbands and 2.19% were divorced. The average duration of stay in the city was about 22 years. The 50.63% of interviewed individuals reside in their own home, 34.06% live in rent. It was observed that 52.50% of the participants had cars, 83.75% had computers and 75.63% had internet connections. It was found that the household size was composed of 3.53 individuals. Household size in income groups varied between 3.40 and 3.77 persons. Generally 35.32% of the individuals were high school graduates. In the second rank, 28.45% were primary school graduates and in the third rank, 21.26% were interviewed with university graduates. The number of people working in households was 1.48. Of these, 67.30% were male employees. The working rate of women was 32.70% (Table 1).

Table 1. Some characteristics of the interviewed houses

Specification	I	II	III	Total/ Average
Educational level of interviewed individual				
Not literate (%)	1.75	0.99	0.90	1.96
Literate (%)	3.51	0.99	0.81	0.33
Primary education (%)	45.93	28.41	24.67	28.45
High school (%)	31.24	33.34	33.52	35.32
College (%)	3.03	10.00	5.09	7.87
University (%)	11.93	21.46	28.13	21.26
Graduate (%)	2.60	2.80	3.64	2.96
Doctorate (%	0.00	2.00	3.24	1.84
Interviewed Individual (Female,%)*	53.09	50.8	48.03	50.67
Household size (person) *	3.41	3.45	3.84	3.53
Number of women in households (%)	51.09	50.53	48.94	50.27
Number of men in households (%)	48.91	49.47	51.06	49.73
Number of individuals working in dynasties (person) *	1.25	1.37	2.00	1.48
Number of men working in dynasties (%) *	61.39	71.11	65.54	67.30
Number of women working in dynasties (%) *	38.61	28.89	34.46	32.70
Marital status				
The married (%)	64.2	67.88	74.33	68.44
Single (%)	24.69	26.67	24.32	25.62
Divorced (%)	4.94	1.21	1.35	2.19
Widow (%)	6.17	4.24	0.00	3.75
Age group of the household (year)				
00-06 (%)	6.52	3.16	5.99	4.69
07-14 (%)	9.78	9.12	7.04	8.76
15-17 (%)	6.52	8.60	5.63	7.35
18-22 (%)	11.23	10.70	11.97	11.15
23-29 (%)	18.48	17.37	16.90	17.52
30-39 (%)	14.13	14.39	17.96	15.22
40-49 (%)	18.48	21.23	14.79	18.94
50-59 (%)	11.96	12.63	13.03	12.57
60-69 (%)	2.54	2.28	6.34	3.36
70 and more(%)	0.36	0.53	0.35	0.44
Number of infertile infants (0-3 old)(%)	20.99	6.67	16.22	12.50
Life in the city (year)	24.77	20.45	21.68	21.83
Owners of cars (%)	35.8	47.27	82.43	52.5
Host				
Property (%)	37.04	46.06	75.68	50.63
Rent (%)	48.15	35.76	14.86	34.06
Other (%)	14.81	18.18	9.46	15.31
Internet connection (%)	44.44	81.82	95.95	75.63
Computer owner (:%)	64.2	86.06	100.00	83.75

The distribution of monthly total food expenditures according to income levels of interviewed households was examined. The

low income group's food expenditure was found to be at most TRL 100-199, the middle income group at TRL 500-599, and the high income group at TRL 800-899 (Table 2).

Table 2. Monthly total food expenditure of the households

Food expenditure (TRL)	I	II	II	Total
99 TRL and less	11.11	0	0	2.81
100-199 TRL	28.4	1.82	0	8.13
200-299 TRL	25.93	18.79	0	16.25
300-399 TRL	14.81	13.94	4.05	11.88
400-499 TRL	8.64	10.3	5.41	8.75
500-599 TRL	7.41	20	12.16	15.00
600 TRL and more	3.70	35.15	78.38	37.20

Table 3. Monthly total meat and meat products expenditure of the households

Total meat and meat products expenditure (TRL)	I	II	III	Total
Less than 50 TRL	22.22	1.82	-	6.56
50-99 TRL	49.38	30.91	14.86	31.88
100-199 TRL	28.40	54.55	52.70	47.50
200-399 TRL	-	11.52	16.22	9.69
400-599 TRL	-	0.61	5.41	1.56
600 TRL and more	-	0.61	10.81	2.81

It was found that the expenditure of monthly meat and meat products in the income group was concentrated under 199 TRL.

The monthly income of meat and products in the low income group is 99 TRL and below. In the middle and high income groups, it was found that the households spent more than 100-199 TRL on meat and products (Table 3).

Consumption of red meat and meat products and factors affecting the consumption

The types of meat consumed primarily by the families surveyed, the reasons for not consuming red meat, and the proportional distribution of reasons for consuming red meat were examined. In all consumption frequency groups, it was stated that chicken was the first, fish was the second, beef was the third, and sheep-goat was the fourth. On average, chicken was 99.38%, fish was 94.69%, beef was 82.20% and sheep meat was 57.82% (Table 4).

Table 4. Average consumption frequency of meat and meat product

	Every day	**2-3 times a week**	**A week**	**Every 15 days**	**Once a month**	**Every 2-3 months**	**I do not consume**	**I am not buying**
Beef	0.63	5.31	15.94	20.94	30.63	8.75	11.25	6.88
Sheep and goat meat	0.31	1.25	3.44	15.31	25.63	11.88	23.13	18.13
Chicken meat	1.25	22.81	34.06	28.44	12.19	0.63	0.63	0
Fish meat	0.31	5.94	25	31.56	23.75	8.13	2.5	2.81
Sausage	5	12.19	9.06	26.56	18.44	7.5	10.31	10.94
Bacon	0.94	0	0.63	1.56	7.19	6.56	46.25	35.63
Salami	1.88	5.94	4.38	12.81	10.94	4.38	32.81	26.56
Sausage	1.88	6.56	4.38	14.69	10.63	4.69	31.25	25.63
Offal	0	0.94	2.81	13.44	11.25	10.31	35	25

As the reason for not consuming red meat; households have health concerns considered as, mainly related to animal diseases, high fat ratio, high cholesterol, hormone usage in animals and antibiotic usage. Such factors are important in the consumption of red meat and meat products. As a result, it was seen that the purchase and consumption of ready-made food decreased.

News related to health effects of red meat and meat products consumption in the media reduced consumption by 45.75% and changed consumers' preferences. About the reliability (health) of meat products, 66.56% of the households were informed from TV, 58.70% from newspapers and magazines, 38.75% butcher, 38.75% environment, 31.25% product labels, 28.75% internet and 12.81% use resources such as doctors and specialists. Information obtained from these sources significantly affect and change red meat consumption. As a result, the demand for other types of meat was reached as a result of increased demand. It has been found that consumers consider certain criteria when buying red meat. It was determined that 56.25% of the consumers consumed red meat, 36.56% considered quality and price as an important factor and 7.18% considered only price.

Factors that effects the decision of consumers to buy meat products are given in Table 5.

According to this, it was determined that the primary factor in purchasing decision was to be health benefits, freshness of the product, place of purchase, colour and packaging of the product.

Table 5. Factors influencing the decision to buy red meat and meat products (average)

Factors	I	II	III	Total
Useful for Health	4.07	4.52	4.35	4.37
Fidelity	4.04	4.41	4.54	4.34
Purchase Place	3.83	4.38	4.32	4.23
Guaranteed meat is healthy	4.01	4.17	4.32	4.17
Labelled	3.77	4.18	4.15	4.07
Etin Rich	3.65	4.2	4.08	4.03
Packaged	3.68	4.16	3.88	3.98
Ecological / Organic	3.8	4.07	3.89	3.96
Recommended by experts	3.72	4.1	3.68	3.9
Ethine protein additive	3.37	4.1	4.00	3.89
Whether or not it is oily	3.27	3.85	3.65	3.66
Price	3.54	3.78	3.35	3.62
Brand	2.86	3.5	3.74	3.39
Advertisement / Promotion	3.01	3.35	3.35	3.27
Nutrition type	2.99	3.1	3.41	3.14
Animal age	2.95	3.11	3.23	3.1
Orijin	2.77	3.1	3.32	3.07
Race	2.48	2.88	3.15	2.84

Scale: *1. Not important 2. Somewhat important 3.Important 4.Quite important 5. Very important

Consumer habits should also be focused on, for the choice of buying place. It has been stated that consumers are directed from traditional places such as butchers, to supermarkets and hypermarkets to buy food products (Gracia, 2005) [5].

In this study, it was also found that consumers prefer traditional places of fresh meat such as butchers. Purchasing channels used by interviewed individuals; 48.13% were from butchers for beef, 34.69% were from the discount-market and 42.19% from supermarkets. It was found that consumers bought the sheep and goat meat mostly from supermarkets and bought white meat from the supermarkets with 89.06%. Consumers bought fish from supermarket with 45.63% from the fishermen with 44.06% and from the district market with 37.19%. Other meat products were mostly purchased from supermarkets (Table 6).

Consumers generally assess product quality according to physical characteristics, brand image, price, packaging, advertising, retailer image, manufacturer image, and product origin (Schiffman and Kanuk, 2004) [11].

When the brand loyalty levels of consumers were evaluated; it can be said that brand loyalty of meat and meat products is high. The share of brands with high brand-loyalty (2 and 3 brands) was 31.88%.

Table 6. Meat and meat products purchase channels

	Butcher	Discount-market	Supermarket	District market	Fishery
Beef	48.13	34.69	42.19	-	--
Sheep and goat meat	31.56	27.50	55.00	-	-
Chicken meat	38.44	25.00	89.06	-	-
Fish meat	2.19	5.94	45.63	37.19	44.06
Sausage	18.44	20.94	75.34	-	-
Bacon	13.03	27.55	59.42	-	-
Salami	8.96	16.41	74.63	-	-
Sausage	8.66	18.27	73.07	-	-
Offal	25.51	7.66	66.83	-	-

The rate of those who always buy the same (one) brand is 4.69%. However, 5.00% of the consumers were moderate brand loyalty and 1.25% of the independent consumers who did not prefer a certain brand.

In the case of consumers using branded products; the fact that branded products do not contain hormones, geographically the location of the flesh is obvious, the taste is better, the fat is lower, the risk for human health is low, the animals are fed under control, And the fact that using branded products is a popular and prestige icon is important for consumers. Consumers who do not use branded red meat products said that the reasons about this preference were high prices of branded products, the same quality of branded and unbranded products, difficulty in finding branded products and suggesting that experienced people should use unbranded products.

Red meat and meat products consumption

The 47.81% of the consumers in the study emphasized that consumption of red meat was consumed because of habits. About 52.19% of the interviewed eat red meat to be cheap, to have high nutritional value, to be easily accessible, for health and protein, and for quality. The interviewers prefer red meat preferences and red meat consumption patterns, sausage made from red meat, salami, sausage, and so on. The 74.69% of consumers said they bought and consumed red meat in pieces, 75.75% of them in minced meat, 43.75% in sausage, salami, sausage and 34.06% in offal. The 7.49% of consumers consumed meat with vegetables food, 11.88% of them in plain foods and 80.63% of them in both types of foods.

If you look at the monthly meat consumption in the dynasties, it is seen that the

consumption of meat is higher in the high income households. The monthly average consumption of meat products was 3.16 kg and was determined as chicken meat. Secondly, the consumption of fish was determined with an average of 1.77kg per month. The average monthly consumption of red meat in the densities was found to be third at 1.45 kg in beef meat and 0.71 kg in sheep-goat meat. In all income groups, the average monthly consumption was the lowest meat product and the bacon meat product was 0.11 kg (Table 7).

Table 7. Household consumption of meat and meat products per month (kg)

	I	II	III	Total
Beef	1.05	1.48	1.83	1.45
Sheep and goat meat	0.41	0.67	1.11	0.71
Chicken meat	3.09	3.15	3.26	3.16
Fish meat	1.59	1.72	2.06	1.77
Sausage	0.50	0.83	1.03	0.79
Bacon	0.05	0.13	0.16	0.11
Salami	0.15	0.32	0.46	0.31
Sausage	0.25	0.28	0.49	0.32
Offal	0.20	0.35	0.43	0.33

The relation between the education levels of the consumers, the income levels and the characteristics such as individual groups and per capita consumption of meat were examined and hypotheses were established. The determinations obtained in the latter were as follows.

The relationship between per capita consumption of meat and educational levels was explored:

H_0: There is no relation between the amount of red meat consumed per capita and the education levels of consumers.

H_1: The relationship between the amount of red meat consumed per capita and the educational level of consumers is not a coincidence. It is important as a statistic.

According to the findings , it was determined that the consumption of red meat consumed per capita per capita in the households in the city centre is related to the education levels ($p < 0.00$, χ_h^2 15.073> χ_c^2 9.5).

Consumption of per capita consumption of meat was examined in relation to income groups.

H_0: There is no relationship between the amount of red meat consumed per person and the income groups of consumers.

H_1: There is no relation between the amount of red meat consumed per capita and the income groups of consumers.

According to the findings, it was determined that there is a relationship between monthly consumption of red meat consumed per capita and income groups in households interviewed in the city centre ($p < 0.00$, χ_h^2 18.767> χ_c^2 9.5).

The relationship between per capita meat consumption and household size groups was examined.

H_0: There is no relation between the amount of red meat consumed per person and individuals groups among the 320 households interviewed.

H_1: The relationship between the amount of red meat consumed in 320 households and individual groups is not a coincidence. It is important as a statistic.

According to the findings obtained, it was shown that there is a connection between the consumption of red meat consumed per capita and the individual groups in the households interviewed in the city centre ($p < 0.00$, χ_h^2 46.535> χ_c^2 9.5).

Judgments on the reliability of red meat and meat products

With increase in population and the demand for healthy, reliable and affordable meat and meat products is also increasing, steadily. In Turkey, with the increasing population, red meat and meat products food safety must be provided in order to provide healthy and balanced nutrition (Tosun et al., 2012) [14].

Food safety can be defined as the whole of the measures taken to prevent physical, chemical, biological and all kinds of harm that may occur in food (Mucuk, 2001) [9]. In this study, it was determined that about 54.68% of the consumers think that the fruits are less reliable in terms of health compared to the fruit products of previous years. However, 27.18% said that the reliability of food items is increased in recent years. Only about 18.14% said they did not see any change in terms of food safety in recent years. Again, the opinions about the reliability of meat and meat were also asked; 43.75% of consumers found that beef was moderately reliable for

safety, sheep meat was moderately reliable, chicken meat was less reliable and fish was found to be very reliable.

When the consumers were asked about the reliability of food in terms of health, 62.19% was medium reliable, 24.06% was less reliable, 10.00% was very reliable and 0.31% was very reliable, While 3.44% said they did not find food products as reliable in general.

Consumers' attention to meat and meat products at the top of the list is that the price is right, meat colour is good in the second, fat is low in order not to raise cholesterol in the third place, and the meat brand name in the fourth place (Table 8) .

Table 8. Ranking of items to be taken into consideration for red meat and meat products (%)

	I	II	III	Total
Brand name	17.28	48.48	59.46	43.13
Fat rate	45.68	76.36	68.92	66.88
Price	80.25	87.27	70.27	81.56
Meat colour	64.2	83.64	89.19	80

The food reliability values that consumers perceive for some special processed food items are shown in Table 9. Generally, it was found that the worries about the reliability of these products increased as the income groups went from the low income group to the high income group. The most uncomfortable of the consumers was stated that the meat was mixed with other meat and offered for sale (Table 9).

The awareness of the certificates (TSE, ISO, HACCP) that help consumers to evaluate the quality of food products was identified. ISO (International Organization for Standardization) is an organization that prepares international standards in all matters other than electrical and electronic issues. The aims of the ISO are to promote standardization and related work in order to facilitate the circulation of international goods and services, to promote cooperation in scientific, technological and economic activities, and to engage in initiatives to harmonize standards and related activities worldwide.

ISO standards for food safety management system are called ISO 2200.

Table 9. Table 10. Food safety values of subjects worried about consumers of red meat consumption

Conditions	I	II	III	Total
Mixing and selling meat with other meat	4.27	4.57	4.46	4.47
Cooking of meats in places that are not hygienic enough	4.16	4.48	4.42	4.38
Use of hormone in animal production	4.1	4.34	4.24	4.26
Imported meats	4.09	4.35	4.16	4.24
Conservation and evaluation of meat sales locations	3.96	4.3	4.16	4.18
Inadequacy of veterinary control in captives	3.95	4.26	4.22	4.17
Feeding of animals with artificial feeds	3.95	4.27	4.15	4.16
Antibiotic use in the treatment of animals	3.96	4.26	4.12	4.15
Stables are not healthy and clean	3.84	4.23	4.03	4.08
Other diseases	3.91	4.15	3.97	4.05
News about meat is not trusted in the media	3.9	4.09	3.99	4.02
Bad conditions in the transport of animals	3.74	4.16	3.99	4.01
Beef disease risk	3.83	4	3.76	3.9

Scale : *1. Not exactly…… 2. Rarely ……3.Moderate ……4.Quite …5. Too much

Consumers interviewed within the scope of the research; 92.19% were TSE (Turkish Standards Compliance Certificate), 74.06% were ISO, 31.88% were EUROGAP (European Good Agricultural Practice Certificate), 30.31% were Hazard Analysis and Critical Control Points-Hazard Analysis and Critical Control Points) and 36.56% had knowledge about organic and ecological product certifications (Table 10).

Table 10. Consumers' knowledge of some standards (%)

Standards	I	II	III	Total
TSE	92.59	90.91	94.59	92.19
ISO	69.14	72.12	83.78	74.06
HACCP	16.05	30.91	44.59	30.31
GAP	23.46	26.06	54.05	31.88
Organic-ecological	37.04	29.70	51.35	36.56

The 46.88% of consumers were informed about which organization controls the harmful effects of red meat and meat products sold on the market. About 53.12% of interviewed individuals were found not to have information.

Findings obtained in other researches related to red meat can be expressed as follows. Yıldırım et al. (1998) [17] found that 49.1% of 120 households preferred sheep meat and 34.22% preferred beef meat at different income levels in Van province. The authors found that 16.7% of their families did not prefer red meat. The authors also calculated the proportional distribution of meat

purchasing places. The authors found that 82.52% of the interviewed consumers found that they were bought meat and meat products from butcher, 12.5% of them from supermarkets and 5% of them purchased meat and meat products from the Meat Fish Institution.

Atay et al. (2004) [2] studied red meat consumption habits in the urban area of Çine district of Aydın province. The authors determined that 33.1% of the respondents prefer red meat preferentially.

Karakuş et al. (2006) [7] revealed the consumption habits of red meat in the district of Gaziantep. In 2006, the author surveyed 516 samples. The author calculated that 50.6% of the respondents preferred red meat and 1.7% did not consume red meat. The most preferred red meat species were sheep (77.9%), cattle (6.2%) and goat (2.3%), respectively.

Şeker et al. (2010) [12] determined the red meat consumption habit of Elazığ province centre and the opinions of consumers about animal welfare. In 2010, 463 people surveyed. The authors found that 58.4% of participants preferred red meat preferentially, and the most preferred red meat was "cattle" (55.3%), "sheep" (15.3%) and "goat" (11.7%).

Akçay et al. (2010) [1] examined consumers' preferences for red meat consumption and effective factors in consumption by using the data obtained from the questionnaires made in 2010 from 384 households living in Kocaeli. They found that there was a statistically significant relationship between red meat consumption and consumers' gender, income level, total expenditure, and food expenditure.

Yalçınkaya (1999) [15] conducted a study with 140 families in the province of Van province Ercis, and found that 50.87% of the animal food consumption was red meat consumption.

Şengül (2002) examined the food demands of the households according to the income groups in urban and rural areas in Turkey. The author found that the food demand parameters of the middle, high, and high income groups were sensitive to prices, to income and to socio-demographic variables. The food parameters of the lowest and low income groups were only susceptible to price and to income.

CONCLUSIONS

This study was conducted to analyse the factors affecting red meat consumption habits and red meat consumption preferences of consumers in the urban area of Isparta. The data were obtained via face-to-face interview.

Red meat consumption was analysed on the basis of gender, income, total expenditure, and food expenditure as factors influencing consumer consumption. The 50.65% female, 49.35% male interviewed had different education levels and different incomes. In Isparta province, 36.64% of the consumption of meat and meat products was identified as chicken, 18.85% as cattle and 20.49% as fish meat. It was found that consumers strongly consider meat price, colouring, fat ratio and brand when purchasing these products. Individuals interviewed have learned about sources of red meat mainly from the media channels such as TV, magazines, newspapers. Consumers with a high education level and high income level were found to consider quality, brand and reliability of the red meat products during the purchasing and consumption.

In Turkey, increase in red meat prices in recent years had a negative impact on consumption. There are many reasons for this price increase. First of all, feed costs are high. Due to the meadows and the pasture, which are not suitable for adequate and regular grazing, the producers have had to turn to the feeds. For this reason, it is necessary to solve meats problem by improving meadow and pasture. Another reason for the increase in red meat prices is the excessive number of intermediaries in marketing and supply channels. To decrease the number of intermediaries and associated costs related to this, producers need to form a cluster and market their products directly to the end consumers. In this way, producers will be able to sell their products with a sustainable price and value and the consumers will be able to purchase more affordable red meat.

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