

The Situation of Animal Product Consumption and Preferences among Final-Year Students at Firat University, Faculty of Veterinary Medicine

Emin Ertan Gokhan

Department of Animal Health Economics and Management,
Faculty of Veterinary Medicine, Firat University, 23119 Elazig, Turkey

Abstract: This study was aimed at determining the situation of animal product consumption and preferences among final-year students at Firat University, Faculty of Veterinary Medicine and defining the factors influential on their preferences. The material of the study, conducted during the 2010-2011 academic year, was comprised of data collected by a survey study of 105 final-year students. The results of the survey study demonstrated that the monthly individual income of 55.24% of the participants was below 500 TL and that those with a monthly individual food expenditure below 250 TL accounted for 75.2% of the participants. It was found that the meat consumption of these students depended primarily on poultry meat and that their red meat preference was in favour of beef and veal. The average monthly milk consumption of the participants was 1.9 L.

Key words: Student income, animal product, consumption preferences, beef, veal

INTRODUCTION

Food of animal origin is of strategic importance in terms of the nutrition regimen of mankind. In particular, to ensure the normal physical and mental development of growing children and adolescents, the amount of consumption of food of animal origin of an individual should be at a level sufficient to meet his physiological requirements (Cevger *et al.*, 2008). However in Turkey, the population suffering from under-nourishment and malnutrition is pre-dominated by children and adolescents (Yilmaz and Ozkan, 2007; Cevger *et al.*, 2008). Of these two age groups, owing to their more rapid growth and active life style, adolescents have a greater food requirement (Orak *et al.*, 2006). But, research conducted in Turkey has shown that the diet of adolescents is neither adequate nor balanced in terms of food of animal origin (Tarakci *et al.*, 2003; Orak *et al.*, 2006; Sariozkan *et al.*, 2007). Whereas, the development of national nutrition policies for the adequate and balanced nutrition of the public, requires the generation of data that would shed light on the situation of food consumption of the different social layers of the society, as well as on the social and economic parameters that have influence on this situation. This study was aimed at determining the situation of animal product consumption and preferences among tenth-semester students at Firat University, Faculty of Veterinary Medicine and defining the factors influential on this situation and their preferences.

MATERIALS AND METHODS

Data collected by 11 survey questions addressed to 105 10th semester students at Firat University, Faculty of Veterinary Medicine, during face-to-face interviews, constituted the material of the study. The survey questions were designed on the basis of data reported by Cevger and Sariozkan *et al.* (2007). The questionnaire was designed in a way to determine multiple parameters including monthly income and food expenditure as well as those related to dependent variables, such as purchasing habits for animal products and consumption amounts of poultry meat, red meat, eggs, milk, meat products and milk products. The data collected through surveys were entered into a computer for analysis with the SPSS Software for Windows 11.5. Weighted averages, frequencies and percentage distributions were calculated for the data and findings were tabularized for interpretation. The surveys were conducted during the 2010-2011 academic year and participation was voluntary.

RESULTS

The survey conducted among the 10th semester students at Firat University, Faculty of Veterinary Medicine during the 2010-2011 academic year was attended by 105 volunteers.

All of the participants were determined to have the habit of dining out and it was ascertained that the frequency of dining out at ordinary and fast-food

restaurants was once or twice in 68.7%, 3-5 times in 25.71% and every day in 5.71% of the participants.

When assessed for the monthly individual income parameter, it was observed that 55.24% of the participants had an income below 500 TL and that 39.05% of the participants had an income ranging from 500-999 TL. Of the participants 82.8% declared to have a monthly individual food expenditure below 300 TL while 17.2% declared this expenditure as 300 TL and above (Table 1). The share of animal products in the monthly individual food expenditure was below 20% in 40.9% of the participants, 21-50 in 42.8% of the participants and above 50 in 16.12% of the participants (Table 2). The monthly

individual income and food expenditure of the participants are detailed in Table 1 while findings related to the average share of animal products in the monthly individual food expenditure of the participants are presented in Table 2.

As shown in Table 3 which illustrates the meat consumption amounts and preferences of the students, the diet of 11.4% of the participants lacked beef and veal while 34.3% of the students did not consume fish, 56.2% did not eat mutton or goat meat and 95.2% did not consume Turkey meat at all. The assessment of consumption amounts revealed that the monthly beef and veal consumption of 74.3% of the participants was below 500 g. The monthly red meat and poultry meat consumption amounts of the students are given in Table 4.

Data related to the monthly individual meat product consumption amounts of the participants are presented in Table 4. Accordingly, meat products indicated not to be consumed at all by the students were Turkish fermented sausage (sucuk) in 21%, salami in 62.9%, sausage in 71.4%, pastrami in 93.3%, meatballs in 29.5% and cooked/half-cooked products in 61.9% of the participants. Participants, who indicated to consume these products were observed to be concentrated in the group with a monthly consumption amount below 250 g. Among the participants with a monthly consumption amount below 250 g, the percentages of those who declared to consume Turkish fermented sausage (sucuk), salami, sausage, pastrami, meatballs and cooked/half-cooked products were 47.6, 29.5, 20, 5.7, 36.2 and 22.9%, respectively. The meat products most commonly consumed by the students were minced meat and Turkish fermented sausage (sucuk) (Table 4).

Of the students attending the Faculty of Veterinary Medicine, who participated in the survey, 21% (n = 22)

Table 1: The monthly individual income and food expenditure of the students

Monthly individual income (TL)	No. of student (n)	%	Individual food expenditure (TL)	No. of student (n)	%
<300	20	19.05	<150	38	36.2
300-399	17	16.19	150-199	20	19.0
400-499	21	20.00	200-249	21	20.0
500-599	19	18.10	250-299	8	7.6
600-699	8	7.62	300-349	11	10.5
700-799	10	9.52	350-399	4	3.8
800-899	4	3.81	400-449	2	1.9
900-999	0	0.00	450-499	0	0.0
1000>	6	5.71	500>	1	1.0
Total	105	100.00	Total	105	100.0

Table 2: The share of animal products in the monthly individual food expenditure of the students

Share (%)	No. of students (n)	Percent
5-10	20	19.0
11-20	23	21.9
21-30	16	15.2
31-40	17	16.2
41-50	12	11.4
51-60	11	10.5
61-70	2	1.9
70>	4	3.8
Total	105	100.0

Table 3: The monthly red meat and poultry meat consumption amounts of the students

Type of meat	None		<250 g		251-499 g		500-999 g		1 kg>		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Beef-veal	12	11.4	53	50.5	25	23.8	10	9.5	5	4.8	105	100
Mutton-goat	59	56.2	32	30.5	11	10.5	3	2.9	-	-	105	100
Chicken	1	1.0	17	16.2	39	37.1	25	23.8	23	21.9	105	100
Fish	36	34.3	58	55.2	6	5.7	3	2.9	2	1.9	105	100
Turkey	100	95.2	3	2.9	1	1.0	1	1.0	-	-	105	100

Table 4: The monthly individual meat product consumption of the students

Meat product	None		<250 g		251-499 g		500-999 g		≥ 1 kg		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Sucuk	22	21.0	50	47.6	19	18.1	7	6.7	7	6.7	105	100
Salami	66	62.9	31	29.5	3	2.9	5	4.8	0	0.0	105	100
Sousage	75	71.4	21	20.0	5	4.8	4	3.8	0	0.0	105	100
Pastrami	98	93.3	6	5.7	0	0.0	1	1.0	0	0.0	105	100
Meatballs	31	29.5	38	36.2	19	18.1	11	10.5	6	5.7	105	100
Cooked/half-cooked	65	61.9	24	22.9	7	6.7	3	2.9	6	5.7	105	100

Table 5: The monthly individual milk product consumption of the students

Milk product	None		<500 g		501-999 g		1 kg-1999 g		≥2 kg		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Cheese	0	0.0	26	24.8	51	48.6	15	14.3	13	12.4	105	100
Yoghurt	2	1.9	17	16.2	30	28.6	24	22.9	32	30.5	105	100
Butter	33	31.4	58	55.2	6	5.7	5	4.8	3	2.9	105	100

were determined not to consume milk at all while 29.5% (n = 31) consumed <1 L of milk, 19% (n = 20) consumed 1-2 L of milk and the remaining 30.5% (n = 32) had a monthly milk consumption of 3 L and above. In general, it was observed that the average monthly individual milk consumption amount was 1.9 L.

As regards milk products, the investigation of the cheese, yoghurt and butter consumption of the participants demonstrated that more than half of the students consumed 500-999 g of cheese per month and that the most commonly consumed milk product was yoghurt with almost half of the students having indicated a monthly yoghurt consumption above 1 kg. It was observed that butter was consumed at a level lower than that of cheese and yoghurt and that 31% of the participants had indicated not to consume butter at all. The average daily consumption amounts of cheese, yoghurt and butter were determined as 32, 42 and 15 g, respectively (Table 5).

All of the participants indicated that eggs were a part of their monthly diet. The number of eggs consumed per month was 1-5 in 14.3% (n = 15), 6-10 in 35.2% (n = 37), 11-15 in 15.2% (n = 16), 16-20 in 17.1% (n = 18) and >20 in 18.1% (n = 19) of the students.

DISCUSSION

Economic parameters are among the factors known to be most influential on the situation of food consumption and preferences of people. Of these parameters, budgetary opportunity is the most significant determinant factor on the situation of consumption and preferences. For an individual to keep a balanced and adequate diet, economic sufficiency is indispensable (Sengul, 2004). The Turkish Statistical Institute (TURKSTAT), using unit prices of the consumer price index, determined the hunger threshold of an adult individual as 256 TL, for the supplies and services covered by the hunger and poverty calculations of the Confederation of the Public Servants' Trade Unions (Memursen) in March, 2011. In November, 2011, the results of the hunger and poverty threshold survey, conducted on a monthly regular basis by the Confederation of Turkish Trade Unions (Turk-Is) with an aim to determine the living standards of workers, demonstrated that the cost of a healthy, balanced and adequate diet for a family of four, in other words, the

hunger threshold of a family of four was 926.58 TL with the same threshold being 256.21 for an adult male and 215 TL for an adult female. According to the results of the present study, three-quarters of the students attending the Faculty of Veterinary Medicine had a monthly food expenditure below 249 TL and therefore, were below the limit of adequate and balanced nourishment. In view of more than half of the participants having declared to have a monthly income below 500 TL, the results obtained in the present study are concluded to be in support of the speculations that a balanced and adequate diet depends on economic sufficiency (Sengul, 2004).

Data on the monthly meat consumption of the participants showed that the students consumed mostly poultry meat and among red meat alternatives, preferred to consume beef and veal. These data are in parallel with those reported by Cevger and Sariozkan. The participants having declared to prefer poultry meat in the first place may be related to poultry meat being cheaper than other meat. Furthermore, the main red meat preference of the participants being beef and veal was also in parallel with findings earlier reported by Sariozkan *et al.* (2007) and Seker *et al.* (2011). It was considered that this preference may be related to the processing of beef and veal being relatively easier than that of mutton and/or the fat content of beef and veal being less than that of mutton. It should also be taken into consideration that the market prices of beef and veal are relatively cheaper.

The assessment of the meat product consumption pattern of the participants demonstrated that the percentage of students having declared not to consume pastrami, salami or sausage at all was rather high. The meat products consumed most commonly by the students were meatballs and Turkish fermented sausage (sucuk). In view of these two meat products being cheaper than pastrami, salami and sausage, this preference is also considered to be related to purchasing power. Meat products with higher prices, such as pastrami, sausage and salami, being preferred by the participants at a lower rate was attributed to the limited budgetary opportunities of the students.

Including the 21% having declared not to consume milk at all, 85.7% of the participants had a monthly individual milk consumption amount below 4 L. The average monthly individual milk consumption amount was

1.9 L. As reported by Tarakci *et al.* (2003), this consumption pattern may have arisen from milk market prices having been perceived as high by the students. The comparison of these data with results earlier reported by Tarakci *et al.* (2003), Sariozkan *et al.* (2007) and Cevger demonstrated that the survey participants of the present study consumed less milk than university students attending higher education in Ankara, Van and Kayseri Provinces. This difference was attributed to students attending university in Elazig coming from families with lower income, compared to students attending university in Ankara, Kayseri and Van.

Despite consuming milk at low levels of milk products, the participants were determined to consume mainly yoghurt and to less extent, cheese. Although, the students consuming on average less than an egg daily accounted for more than four-fifths of the participants, all of the survey participants were observed to consume eggs. The yoghurt, cheese and egg consumption pattern of the participants was considered to be a reflection of the indispensable place of these products in the diet of the Turkish people. Furthermore, these products being easily prepared for consumption may also have been influential on the preferences of the participants. Another factor that may have shaped the consumption preferences of the participants is the market prices of yoghurt, cheese and eggs being lower than that of other animal products.

CONCLUSION

In view of veterinary students preparing for performing a profession actively involved in all stages of the food chain for products of animal origin, from production to consumption, students attending higher education in the field of veterinary medicine could be expected to keep a more balanced and adequate diet.

However, the results of the survey demonstrated that in general, the students lacked an adequate and balanced diet. This situation may have arisen from two reasons. Either the survey participants may not be aware and/or well informed of the importance of food of animal origin for the human diet or secondly and most probably, their purchasing power may not be allowing them to keep an adequate and balanced diet.

REFERENCES

- Cevger, Y., Y. Aral, P. Demir and S. Sariozkan, 2008. The situation of animal products consumption and consumer preferences among intern students at the Ankara university faculty of veterinary medicine. *Vet. J. Ankara Univ.*, 55: 189-194.
- Orak, S., S. Akgun and H. Orhan, 2006. Investigation of nutritional habits of Suleyman Demirel University students S.D.U. *Tip. Fak. Dergisi*, 13: 5-11.
- Sariozkan, S., Y. Cevger, P. Demir and Y. Aral, 2007. The consumption situation and habits of livestock products among the students of erciyes university veterinary faculty. *J. Health Sci.*, 16: 171-179.
- Seker, I., A. Ozen, H. Guler, P. Seker and I. Ozden, 2011. Red meat consumption behavior in Elazig and consumers opinion in animal welfare. *Kafkas Univ. Vet. Fakultesi Dergisi*, 17: 543-550.
- Sengul, S., 2004. The food demand by income groups in Turkey. *Metu Stud.*, 31: 115-148.
- Tarakci, Z., S. Selcuk, K. Sahin and H. Coskun, 2003. A study on the habits of fluid milk consumption of the students at the university. *Yuzuncu Yil Univ. J. Agric. Sci.*, 13: 15-21.
- Yilmaz, E. and S. Ozkan, 2007. Investigation of nutritional habits in university students. *Fýrat Saglýk Hizmetleri Dergisi*, 6: 87-104.