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The Features Taken into Consideration by the Consumers in Konya, Turkey, When Purchasing a Food Product

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Abstract: The studies into the effect of diet on health have yielded consumer awareness and attention into the quality standards of the food products they purchase. The aim of this study is to investigate some quality and safety features taken into consideration by consumers at the time of shopping. The study was conducted on 332 consumers in Konya, Turkey. The descriptive survey model was used in the study and the data were collected through a questionnaire. The relationships between the participants' educational level and their attention to some variables like price, brand, contents, production date, expiry date, nutrition value, package, ease of use and healthfulness and to some quality stamps such as TSI, HACCP, HALAL and ISO were investigated in the study. It was also aimed to determine whether there was a relationship between the participants' educational status and their knowledge level about what HACCP was. The results of the study revealed that the consumers paid more attention to the quality features of the food products they purchased as their educational level increased ($p<0.05$).

Key words: Food purchase, food quality, food products

INTRODUCTION

Throughout the world, especially in the developed and in some developing countries, there is an increasing consideration to the "health-diet" interaction. The idea that food habits have a direct influence on one's health is certainly not new; however, the attention paid to this link is increasing due to some factors. On the one hand, there is a considerable amount of ongoing research that yields new insights regarding the relation between food habits and the increase or decrease of the incidence of varies ailments, such as certain types of cancer and different forms of cardiovascular diseases. These scientific developments have not only resulted in extensive literature on the impact of food habits on health, but also in quite practical dietary advice. On the other hand, there is an increased attention to the 'health-diet' interaction as a result of the combination of enough safe food in the Western world and the unhealthy food and lifestyle habits of many individuals (WHO, 2000; Astrup, 2004).

The quality and freshness of the food products are among the important factors that affect health (Anonymous, 2002). Consumers have the right to purchase and consume the high-quality, healthy, safety, sustainable and affordable food (Pekcan, 2001). In the developed countries, the basic principle in food consumption is to ensure healthy, sufficient and safe nutrition for public by taking necessary precautions to prevent misinformation and deception about food products (Anonymous, 2002). Consumers expect the products to be affordable, easily usable and safe, therefore it is important to meet the requirements set by

HACCP (Hazard Analysis Critical Control Points) and use the techniques that ensure the quality standards to tolerate the microbiological and chemical risks which are likely to occur during the production process (Anonymous, 2004).

Food purchasing behaviour is directly affected by a number of factors such as consumers' knowledge of nutrition principles, financial constraints, availability of food supplies and cultural beliefs and attitudes about food and health in general (Beto *et al.*, 1997). Consumers often face a large number of alternatives when purchasing retail food products. The growth in consumer demand for high-quality products is causing changes in the functioning of the food processing and marketing sectors and in government regulation of these sectors (Mojduszka, 2001). Factors affecting consumers' choices are important in marketing, product development and decision making and thus they have been studied by several workers. Brand, price, nutritional information, demographics, attitudes and previous experience are well established factors affecting purchase intentions in this respect (Bower and Turner, 2001).

In view of the related literature, it was aimed to examine the relationship between the participants' educational level and their attention to some variables like price, brand, contents, production date, expiry date, nutrition value, package, ease of use and healthfulness and to some quality stamps such as TSI, HACCP, HALAL, ISO. It was also aimed to determine whether there was a relationship between the participants' educational status and their knowledge level about what HACCP was.

MATERIALS AND METHODS

Descriptive survey model was used in the study. The population of the study consisted of the consumers doing shopping at the supermarkets in Konya, the sixth biggest city (TUIK, 2008) in the Central Anatolia. The sampling group was 332 participants, 166 males and 166 females, who were randomly chosen among the consumers doing shopping at 2 hypermarkets and 3 supermarkets. The survey form, prepared by the researchers in view of the similar studies (Saglam *et al.*, 1999; Sanlier and Seren, 2005; Özcicek Dölekoglu, 2003; Kearney *et al.*, 1999) was used in the study. In the survey form, some questions were placed to determine the points focused on by consumers as regards quality and safety like price, brand, production and expiry dates, and freshness of the products while they are purchasing a food item, along with the questions asking the socio-demographic features of the consumers like their age, gender, educational status, income level and profession. After getting the necessary permissions from the market managements to carry out the survey in the markets, the researchers asked the questions in the survey form to the participants face-to-face. During the application of the survey, the last grade students at the Nutrition Education Department of Vocational Education Faculty assisted the researchers. The data gathered from the survey forms were evaluated in Statistical Package for Social Sciences (SPSS) 13.0 packet program. The subsequent tables of frequency and percentages were made regarding the variables and chi-square (X^2) testing method was used to determine the relations between the variables. The significance margin was regarded as 0.05 for all the statistical analyses.

RESULTS

The demographic characteristics of the participants were asked in the survey form and the results are in Table 1.

As is seen from Table 1, 34.9% of the female participants and 29.5% of the male participants in the study were graduated from primary or secondary schools. The table also reveals that 45.6% of the participants younger than 20 years old were graduated from high school while 7.5% of the participants older than 50 years old were graduated from university. 72.4% of the state officials who were included in the study were graduated from university, 42.1% of the workers who participated in the study were graduated from primary or secondary schools and 42.6% of the self-employed in the study were graduated from high school. As for the income level and educational status of the participants, the figures in the table say that 54.6% of the participants graduated from primary or secondary schools earned TL300-599 in a month.

As is seen from the Table 2, the ratio of university graduated participants who took the peculiarities of the food into consideration as regards quality and safety is higher than the other groups in population. It could also be said that there is a significant difference between the educational level of the participants and the criteria they pay attention to while purchasing the food like package, brand, contents, production date, expiry date, nutritional value, ease of use and healthfulness ($p<0.05$).

Table 1: Socio-demographic characteristics of consumers

Demographic characteristics	Primary and secondary school (n = 107)		High school (n = 104)		University (n = 121)		Total (n = 332)	
	n	%	n	%	n	%	n	%
Sex								
Male	49	29.5	60	36.1	57	34.3	166	50.0
Female	58	34.9	44	26.5	64	38.6	166	50.0
Age (year)								
≤20	9	15.8	26	45.6	22	38.6	57	17.2
21-29	25	19.5	35	27.3	68	53.1	128	38.5
30-39	23	38.3	21	35.0	16	26.7	60	18.1
40-49	20	42.6	15	31.9	12	25.5	47	14.2
≥50	30	75.0	7	17.5	3	7.5	40	12.0
Occupation								
White collar	4	6.9	12	20.7	42	72.4	58	17.5
Blue collar	16	42.1	15	39.5	7	18.4	38	11.4
Self- employed	32	34.0	40	42.6	22	23.4	94	28.3
Other	55	77.4	37	52.2	50	70.4	142	42.8
Household income								
TL 300-599	59	54.6	34	31.5	15	13.9	108	32.5
TL 600-899	35	33.7	36	34.6	33	31.7	104	31.3
TL 900-1199	7	9.7	22	30.6	43	59.7	72	21.7
TL >1200	6	12.5	12	25.0	30	62.5	48	14.5

$1 = Turkish Lira (TL) 1.4837 as of August 2009

Table 2: The features taken into consideration by consumers while purchasing food products

Features of food products		Primary and secondary school (n = 107)		High school (n = 104)		University (n = 121)		Total (n = 332)		
		n	%	n	%	n	%	n	%	
Package	*TIC*[*]	54	23.8	79	34.8	94	41.4	227	68.4	Chi^2 = 23.487
	NTIC[**]	53	50.5	25	23.8	27	25.7	105	31.6	p<0.05
Price	*TIC*	71	29.2	78	32.1	94	38.7	243	73.2	Chi^2 = 3.968
	NTIC	36	40.4	26	29.2	27	30.3	89	26.8	p<0.05
Brand	*TIC*	52	22.6	79	34.3	99	43.0	230	69.3	Chi^2 = 32.622
	NTIC	55	53.9	25	24.5	22	21.6	102	30.7	p<0.05
Contents	*TIC*	36	21.2	46	27.1	88	51.8	170	51.2	Chi^2 = 37.662
	NTIC	71	43.8	58	35.8	33	20.4	162	48.8	p<0.05
PD-ED[***]	*TIC*	93	30.6	93	30.6	118	38.8	304	91.6	Chi^2 = 9.170
	NTIC	14	50.0	11	39.3	3	10.7	28	8.4	p<0.05
Nutrition Value	*TIC*	28	22.8	29	23.6	66	53.7	123	37.0	Chi^2 = 25.059
	NTIC	79	37.8	75	35.9	55	26.3	209	63.0	p<0.05
Ease of Use	*TIC*	19	18.3	27	26.0	58	55.8	104	31.3	Chi^2 = 26.063
	NTIC	88	38.6	77	33.8	63	27.6	228	68.7	p<0.05
Healthfulness	*TIC*	61	27.6	66	29.9	94	42.5	221	66.6	Chi^2 = 11.564
	NTIC	46	41.4	38	34.2	27	24.3	111	33.4	p<0.05

[*] TIC: Taking into consideration; *[**]NTIC:* Not Taking into consideration; [***] PD: Production Date; [***] ED: Expiry Date

Another finding in the study is related with which quality stamps the participants wanted to be on the package of the product they intended to buy. The results are given in Table 3.

The statistical data related with the quality stamps which the participants checked whether they were written on the package or not was given in the Table 3. It was found that 173 (52.1%) of the participants paid attention to whether TSI logo was written on the product or not. The number of the participants who paid attention to ISO (26; 7.8%), to HACCP (26; 7.8%) and to Halal (20; 6.0%) was found to be quite similar. The difference between the variables of educational level and of the licenses required by the participants was found to be significant (p<0.05).

The last question on the survey aimed to determine whether the participants had any information about HACCP or not. The following data regarding that point was found in the study.

In the study, the participants were also asked to complete an open-ended question to define HACCP (Table 4).The definitions made by consumers were compared with the ones made by TSI and the participants' answers were evaluated as "correct", "wrong", or "have no idea about". As a result, The consumer of 332 it was found that only 32 (9.6%) of consumers HACCP correctly, 24 (7.2%) of them defined in a wrong way. As for the percentage of the participants who had no idea about HACCP was 83.1%. Consequently, it could be said that the difference between the educational level of the participants and their state of being able to define HACCP was significant (p<0.05).

DISCUSSION

As a result of the study, it was found that 91.6% of the consumers in the study check the production and expiry dates of the products firstly when they do shopping, 73.2% of them check the price secondly, 68.4% of them check the package thirdly and 69.3% of them pay attention to the brand of the product fourthly. In a study about the factors that may have an affect in consumers' preferences, Celebi *et al.* (1991) found that the consumers pay attention to the brand and quality, the production and expiry dates, the price and finally the package of the product at the time of shopping. When compared, the results of these two studies reveal that consumers rank the price and package of the product as the second or the third in their preference list. In a study conducted in Konya by Okumus and Bulduk (2003), it was found that the consumers mostly paid attention to the expiry date and secondly to the healthfulness of the product when they purchased food products. In another study into the criteria the university students pay attention to when they buy food, Topcu *et al.* (2005) found that the expiry date was important for 87.3% of the participants, the contents were important for 62.8% of them, the price was for 44.6% of them and the nutrition value was for 31.9% of them. Saglam *et al.* (1999) found that 86.0% of the consumers doing shopping at the supermarkets checked the expiry dates of the products. In a similar study, Yurttagül (1991) pointed out that 22.8% of the participants marked the price, 17.6% of them the expiry date, 7.3% of them the nutrition value as a factor they paid attention to. In this study, the nutrition value of the products were found to be taken into consideration in a higher ratio (37.0%) than the one found by Yurttagül (1991), while it is similar to the one found by Topcu *et al.* (2005). The findings of the study, as regards the importance given to the contents of the products by the participants, were also parallel with the ones of the study (51.2%). In another study conducted by Kearney *et al.* (1999) with an aim to determine the food preferences of the consumers, the freshness was found to be the most

Table 3: The quality stamps required by consumers to be on the food packages

Quality stamps	Primary and secondary school (n = 104)		High school (n = 107)		University (n = 121)		Total (n = 332)	
	n	%	n	%	n	%	n	%
TSI	59	34.1	62	35.8	52	30.1	173	52.1
ISO	5	19.2	8	30.8	13	50.0	26	7.8
HACCP	3	11.5	3	11.5	20	76.9	26	7.8
HALAL	11	55.0	2	10.0	7	35.0	20	6.0
TSI and HALAL	6	75.0	-	-	2	25.0	8	2.4
TSI and ISO	8	21.1	17	44.7	13	34.2	38	11.5
It doesn't matter	15	36.6	12	29.3	14	34.1	41	12.4

Chi-square = 41.848; $p<0.05$

Table 4: The information level of the participants about HACCP

HACCP knowledge	Primary and secondary school (n = 104)		High school (n = 107)		University (n = 121)		Total (n = 332)	
	n	%	n	%	n	%	n	%
Correct	1	3.1	7	21.9	24	75.0	32	9.6
Wrong	7	29.2	8	33.3	9	37.5	24	7.2
Have no idea	99	35.9	89	32.2	88	31.9	276	83.1

Chi-square = 25.267, $p<0.05$

important and the taste was found to be the second most important factor in their preference list. Basar (2006) also found in a similar study that 78.2% of the consumers paid attention to the expiry date and 72.6% of them checked the production date, 61.6% of them considered the price, 59.0% of paid attention to the package, 57.3% of them took the name of the firm into consideration and 25.4% of them checked the durability of the package. In a study conducted in Ukraine by Biloukha and Utermohlen (2001), it was found that the consumers firstly paid attention to the freshness and the quality of the product and they secondly considered the price and the taste. Bosi *et al.* (2007) found that 98.0% of the consumers checked the expiry date while 88.0% of them paid attention to the brand of the products. In a similar study held in India (Sehrawet and Kundu, 2007), the city-dwellers were found to pay much more attention to whether the material which the package was made of was harmful to the environment or not than their rural counterparts. Boodhu *et al.* (2008) found that 53.2% of the consumers always checked the expiry date of the product. Sanlier and Seren (2005) found that 54.1% of the participants always bought the food products with TSI quality stamp, which is a quite similar finding in this study that shows 52.1% of the participants required that stamp to be on the package. One of the findings of the study was about how the participants defined HACCP. In view of the data, it was found that 9.6% of the participants defined HACCP correctly and this ratio is quite similar to the one (10.96%) found by Bal *et al.* (2006). However, in the study done by Boodhu *et al.* (2008), 71.8% of the participants said that they had never heard of HACCP before.

Conclusion: The results of the study reveal that as the educational status of the consumers increase, they pay more attention to the features like price, brand, production and expiry dates, nutrition value, package, ease of use and healthfulness of the products. Another conclusion is that there is a parallelism between the education level of the participants and their consideration about the quality stamps, though a great majority of them were found to be uninformed about HACCP.

When the results of different studies conducted in Turkey are examined, it can be seen that the sampling groups are not big enough to make a general picture of Turkey as regards the consumers' food purchasing behaviors. For this reason, it could be suggested that some larger scale surveys be conducted in different regions of the country to get a much more comprehensible view about the subject.

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