

Consumer attitudes towards purchasing functional products

Funda Pınar Çakiroğlu, Ashlı Uçar

Ankara University Faculty of Health Sciences Department of Nutrition and Dietetics, Ankara Turkey - E-mail: aucar@ankara.edu.tr

Summary. Consumers are now generally aiming to live a longer life of better quality. For many, this means adopting an alternative lifestyle, consuming more “functional” foods to help deliver the desired quality and also to cope with their increasing health problems. In parallel with increasing health problems in Turkey and the rest of the world, the interest in functional products has increased, and therefore the market share of these products has also increased. This study aimed to determine the attitudes to purchasing these functional foods by interviewing a sample of 1182 consumers shopping at markets. Specifically, survey examined the attitudes of consumers to using 18 functional foods included in the markets in Turkey. A scale that includes 42 statements, developed by Urala and Lahteenmaki (2004), was used in the study. One of the main findings was that the interest in functional food was found to be high in females, university graduates and individuals aged between 18 and 25. Decision-making about purchasing functional food was found to differ by gender and educational level, and this difference was statistically significant. The factors found to have most influence on consumer decisions about purchasing functional foods were “functional foods are necessary” and “functional foods are a part of healthy diet”.

Key words: Attitudes, consumer, functional foods, nutrition

Introduction

Functional foods are defined as foods that: have the appearance of traditional food; are included in the daily diet; provide physiological benefit and/or; reduce the risk of chronic disease (1). According to documents of the European Union, if it can be proven that a food product affects one or more targeted functions in the body in a positive way, this food product is regarded as a functional food (2). The term “functional food” includes food and food components that provide additional benefits for the physiology and metabolic functions of humans, thus having effects on protection from disease and leading to a healthier lifestyle, beyond meeting the fundamental nutritional element needs of the body (3).

Approximately 2500 years ago, Hippocrates, who is regarded as the founder of medicine., said “Let food be thy medicine and medicine be thy food,” Since con-

sumers who care about their health have really comprehended the importance of foods, the use of functional foods in many countries is rapidly increasing (4). Countries where the sale of functional foods is growing include the United States of America, European countries and Japan. Since 2003, these countries have comprised 90% of the global demand for functional foods (5). It is important both for manufacturers and health professionals who will make suggestions about diets to make the functional foods recognizable by potential customers and those who have already used these products, and to increase the acceptability of the products.

Many studies are available in the literature on functional food products, consumer acceptance and perception (6-14). There are some studies examining the attitudes of consumers towards the consumption of functional foods in terms of the demographic characteristics of Turkey (15-22). However, the functional

food market in Turkey is still at the developmental stage, although it has increased compared with past years.

This study aimed to determine the attitudes of consumers towards purchasing at markets products that are suggested as functional food by nutritionists and dietitians.

Material and methods

A total of 1182 consumers aged between 18 and 65 years were included in the study. The consumers shopping at big markets were randomly selected, and those who volunteered after the interviews participated in the study.

They were first asked about their attitudes towards the use of 18 functional foods in the market (21). These 18 functional foods were classified into 4 groups:

- functional milk and dairy products
- functional cereal product
- functional beverages
- other functional products.

A scale developed by Urala and Lahteenmaki (2004) was used to determine the attitudes of consumers (23). The scale includes 42 statements that were classified into seven groups;

- reward (REW), including 7 statements
- confidence (CON), including 9
- necessity (NEC), including 8
- medicine (MED), including 6
- healthy diet (PART), including 5
- absence of nutritional risks (RISK), including 4, and
- taste (TAST), including 3.

A 7-point Likert-type scale was used for the analysis of the statements (strongly disagree–disagree–slightly disagree–neutral–slightly agree–agree–strongly agree). A reliability analysis of the scale was also conducted, and the Cronbach's Alpha coefficient was found to be $r=84.2$.

The mean scores were examined according to the gender, age, and educational levels of the consumers. The independent t-test was used to determine the difference between genders. One-way Anova and Post-Hoc LSD tests were used to analyse the differences between age groups and educational levels.

Table 1. Demographic characteristics of the participants

Variables	n (1182)	%
Gender		
Female	697	59.0
Male	445	41.0
Educational Level		
High School	342	28.9
University	748	63.3
Postgraduate	92	7.8
Age Group		
18–25	494	41.8
26–35	268	22.7
36–45	194	16.4
46–55	142	12.0
56–65	84	7.1

Results

The findings from the analysis of data on the gender, age and educational levels of consumers are shown in Table 1. These characteristics were then regarded as the study variables.

Of the participants, 59.0% were female consumers and 41.0% were male consumers. More than half of them were university graduates. In the study, the highest percentage of participants (64.5%) consisted of consumers aged between 18 and 35 years of age.

The consumers were asked about which functional products they were purchasing the most, and their purchase percentages are shown in Table 2.

The most preferred functional product purchased was “herbal tea” in the beverage group, with a percentage of 54.3. This was followed by “breakfast cereal” with a percentage of 42.3, “kefir” with a percentage of 32.2 and “cholesterol-free margarine” with a percentage of 24.4.

The mean scores of decisions about purchasing functional foods according to variables are shown in Table 3.

Analysis of the table showed that the interest in the functional food was found to be higher in female consumers, university graduates and individuals aged between 18 and 25 years, compared with those in other groups. The statistical analysis showed that decision-making about purchasing functional foods was found to differ by gender and educational level, and this difference was deemed statistically significant.

Table 2. Functional Products Purchased by Consumers (%)

Functional Products	Purchasing
Milk and Dairy Products	
Kefir	32.2
Lactose-free milk	8.3
Omega-3-fortified milk	5.9
Probiotic Yogurt	14.2
Fat-reduced yogurt	29.1
Cereal Products	
Breakfast cereal	42.3
Diet biscuit with grain	34.9
Bread with vitamins and minerals	15.5
Gluten-free bread	5.8
Beverages	
Energy drink	19.0
Herbal tea	54.3
Fruit juice with vitamins and minerals	22.1
Other functional products	
Snacks with DHA	9.7
Sportsperson nutrients	8.0
Diabetic products	7.7
Sodium-reduced salt	8.1
Cholesterol-free margarine (supportive of healthy cholesterol levels)	24.4
Omega-3-fortified eggs	7.4

Table 3. The mean scores of decisions about purchasing functional foods according to variables

Variables	n	X ± sd	Sig.
Gender			
Female	697	168.6±22.9	0.023*
Male	445	162.6±26.4	
Educational Level			
High School	342	161.8±24.7	0.000** 1-2
University	748	168.3±24.2	
Postgraduate	92	165.0±25.9	
Age Group			
18-25	494	167.9±22.3	0.287
26-35	268	166.0±25.1	
36-45	194	165.0±25.5	
46-55	142	163.5±28.1	
56-65	84	164.2±27.3	
Total	1182	166.2±24.6	

* $p < 0.05$; ** $p < 0.01$

The mean scores obtained from the sub-scales to determine the factors that affect the decisions of consumers about purchasing functional foods are shown in Table 4.

As seen from the table, the mean score of the sub-dimension “functional foods are necessary” was found to be higher compared with other sub-dimensions (4.2 ± 0.3). This was followed by the mean score of the sub-dimension “functional foods are a part of a healthy diet” (4.1 ± 0.2). The sub-dimensions “functional foods are tasty” and “functional foods are reliable” were ranked in third place with similar mean scores (4.0 ± 0.3 ; 4.0 ± 0.2 , respectively). The sub-dimension “functional foods do not carry risk in terms of nutrition” had the lowest mean score (3.7 ± 0.2).

Discussion

This study examined both the attitudes of consumers towards purchasing functional foods, and factors that affect their attitudes. Among the milk and dairy products, “kefir” and “fat-reduced yogurt” were found to be the most purchased and consumed functional products. Yogurt and kefir’s homeland is the region where Turkey is located. So these products were consumed by the participants regularly. Because of this reason it is thought that these products received the acceptance of consumers. The products found to be the most purchased and consumed were “breakfast cereal” among the cereal products, “herbal tea” among the beverages, and “cholesterol-free margarine” among the other products.

Table 4. Description of the attitude scales describing consumers’ willingness to use functional foods (FF)

Scale	X	Sd	Min	Max
1. FF REW	3.9	0.2	3.5	4.1
2. FF CON	4.0	0.2	3.8	4.2
3. FF NEC	4.2	0.3	3.7	4.7
4. FF MED	3.7	0.2	3.3	4.0
5. FF PART	4.1	0.2	3.8	4.4
6. FF RISK	3.7	0.2	3.6	4.0
7. FF TAST	4.0	0.3	3.7	4.3

In this study, the mean scores of purchase decisions were examined according to various variables, and the interest in functional foods was found to be higher in female consumers than in male consumers ($p=0.023$). Many studies show that female consumers constitute the targeted population for functional foods, since they are considered to be more interested in healthy food consumption compared with male consumers (12, 24, 25). Researchers stated that this results from the fact that females are more concerned with health (26).

Some of these studies reported that the interest levels of educated individuals in functional foods are high. In particular, consumers with higher education tend to look for foods which have more benefits for health (25, 27, 28). This study found that education was has an impact on the interest in functional products ($p=0.000$).

Young individuals seem to be more open to innovation in many areas, and accept the facts more easily; for example, in a study conducted in England, urban consumers holding senior positions in the workforce, female consumers, young individuals and small households were each found to be more willing to pay for the developed products (29). A study conducted on 439 young Malaysian individuals reported that most of these individuals had positive attitudes towards functional foods (30). Similarly, the mean scores of young individuals' purchase decisions were found to be higher in the present study.

Some studies have found that elderly individuals are more interested in functional foods and that this may result from their concerns about health (11, 15, 31). In the present study, the mean scores of individuals' purchase decisions were found to decrease with age, while an increase was observed in the 56-65 age group. This may result from the individuals' concerns about their health.

The functional foods/foods for health consumer trending survey shows that, compared to previous studies, more consumers stated that some foods have benefits apart from fundamental nutrition, and also have an impact on both decreasing rates of diseases and addressing other health problems (32). Of consumers surveyed, 33% were found to have a tendency to treat themselves more and go to a doctor less often

(33). A study reported that 72% of the American people believe that foods and nutrition play a role in the protection and development of health. Another study found that 87% of consumers believe that some foods have benefits for health (33-34). In a study, 45% of the individuals surveyed were found to consume functional foods due to their supposed benefits for health; 79.6% to have more control over their health after consuming functional foods, and 86.2% to use these products to improve their health (35). In Finland, health benefits were found to be the most important determinant factor for the willingness of consumers to pay for functional foods (11). All of these studies show that functional foods are thought to be necessary for health and are regarded as a part of a healthy diet. Studies found the first two factors that affect the purchase decision of consumers about functional foods were "a necessity" and "part of a healthy diet" (Table 4).

The factors that were found to affect consumer attitudes to functional foods are taste, being healthy, pleasure, reliability and awareness (10). Some studies found that consumers do not want to compromise on taste, thus they give "taste" particular importance in functional foods (31). Another perception is for functional foods to be "reliable". This perception was found in many studies, and some participants stated that functional foods are more reliable than conventional medication (36-38). In the present study, the taste and reliability of functional foods were found to be the third most important factors that affect the purchase decisions of consumers.

Conclusion

The willingness to be healthy, and to live longer and getting older healthily, consumers are believe that their nutrition habits and life style are very effective factors. People thinks that the food they eat influence their body positive or negative way. So everybody searching new foods to support their health. In our results, we found that people wants to consume functional foods because they think that "functional foods have positive effects on health". Additionally to this result, young individuals, female consumers and educated people use these products most. We believe

that as chronic disease and nutrition related disease increase, people will be more willingness to consume this foods. But they have to learn more about functional foods. The price should be cheaper, the production should be more for everyone to reach.

Acknowledgements

We are grateful to the study participants for their support and for letting us conduct this study during their shopping hours. We are also grateful to the Ankara University Faculty of Health Sciences Department of Nutrition and Dietetics students to collect data

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Correspondence:

Assoc. Prof. Dr. Ash Uçar
 Ankara Üniversitesi Sağlık Bilimleri Fakültesi
 Beslenme ve Diyetetik Bölümü
 Şükriye mah. Plevne cd. Aktaş Kavşağı No.5 Altındağ
 Ankara Turkey
 Phone: +90 312 319 14 50
 Fax:+90 312 319 70 16
 E-mail: aucar@ankara.edu.tr