

Functional foods – an opportunity to provide health status

Mihaela CONSTANDACHE*^a, Steluța RADU^b and Elena CONDREA^c.

^a „Dimitrie Cantemir” Christian University, Faculty of Touristic and Commercial Management, 90A Dezrobirii Street, 900234 Constanta, Romania

^b Agricultural Science and Veterinary Medicine University of Iași, Agriculture Faculty, 3-5 Mihail Sadoveanu Street, 700490 Iași, Romania

^c „Ovidius” University, Faculty of Economics, 1 University Alley, Constanta, Romania

Abstract Foods may contribute to maintaining the health on a long term basis, in ways not recognized until now, which means a new dimension of appreciation of how food can positively influence the health and welfare of the people, beyond providing the nutrients needed. This study attempted to identify the importance for consumer purchase and consumption of functional foods. Research results have shown that consumers are beginning to attach greater importance to healthy eating, 32.99% of respondents believing that this criterion is of great importance in their consumption habits. Most consumers have considered it very important to permit health claims for functional foods by authorized agencies (74.29%), the need for scientific support of health benefits (64.94%) and their communication to the public (89.35%).

Keywords: functional foods, consumption, benefits, health, bioactive compounds, claim, communication.

1. Introduction

Strictly speaking, all food is functional, in that it provides energy and nutrients necessary for survival. But the term “functional food” in use today conveys health benefits that extend far beyond mere survival. Functional foods are foods and food components that provide a health benefit beyond basic nutrition conventional foods, such as fortified, enriched or enhanced foods and dietary supplements. Functional foods can provide health benefits by reducing the risk of chronic disease and enhancing the ability to manage chronic disease, thus improving the quality of life [3, 5, 6, 9, 11]. Functional foods also can promote growth and development and enhance performance [8].

Food and nutrition science has moved from identifying and correcting nutritional deficiencies to designing foods that promote optimal health and reduce the risk of disease.

A growing number of consumers perceive the ability to control their health by improving their present health and/or hedging against aging and future disease. These consumers create a demand for food products with enhanced characteristics and associated health benefits. In one study, 93% of

consumers believed certain foods have health benefits that may reduce the risk of disease or other health concerns. In addition, 85% expressed interest in learning more about the health benefits offered by functional foods [13].

World market growth in the natural health products, nutraceutical and functional food industry is being driven by demographic, economic and social trends. The key factors driving this growth in demand, as well as and changes in the supply chain, include: aging populations, increasing interest in healthy living, increasing affluence and education among world populations, increasing understanding of the link between nutrition and health, emphasis on preventative measures to control health care costs, increased acceptance and utilization of alternative treatments, rising acceptance among doctors, pharmacists and other health professionals, expanding body of scientific and clinical research to validate effectiveness and safety, expanding press coverage of such research, increased marketing and advertising activities by suppliers, evolving public policy and regulatory environments [14].

Although functional foods are intended to modify physiological functions within the body in a positive way, their mode of action is to restore,

reinforce or maintain normal body processes in ways consistent with normal physiology. They may restore or enhance body functions within normal ranges in order to optimise health and well-being or they may reduce factors known to be associated with the risk of contracting diseases [4].

Food choice behaviour is driven by the optimisation of both nutrition and enjoyment derived by food choices [7]. Food choice is a complex human behaviour influenced by many interrelating factors such as: the properties of the food, the person-related factors and the purchasing environmental factors [10]. During the evaluation of alternatives, food selection is not only based on sensory properties of food, but also on verbal information about the food such as description on the packaging, advertisement in the media, advices or recommendations of other persons. Finally, in the case of a purchasing process it is assumed, that a consumer intends maximising his utility from buying and consuming goods given his limited budget [12].

2. Experimental

The purpose of this research was to identify the importance of buying and consumption of foods with health benefits among population in Constanta. Research objectives have been as follows:

- to collect information on primary preferences of consumers in Constanta, regarding their attitude to consume foods with health benefits;
- to identify consumer view on the need for scientific justification and communication of health benefit on functional food;
- consumption habits of different consumer segments;
- criteria used by consumers in assessing the different types of products for purchase;
- to estimate how consumer preferences are affected, depending on income, age and / or gender;

The research was focused exclusively among potential consumers of food in Constanta looking for gathering information about their perceptions on food with health benefits, on the need for scientific justification on health benefits of food and their public communication.

To ensure the representativeness of the sample it was considered a confidence level of 0.05 (corresponding to a probability of ensuring research results of 95%), a margin of error of +/- 5% and a p-value = 0.5% (assuming that the key attribute rated is buying food with health benefits and that 50% of consumers prefer those products). Sample size was of 385 persons [2].

The interviews took place in supermarkets from Constanta on alternative days of the working week, both morning and afternoon.

Most of the questions had two or multiple responses and some were open questions [1].

The survey was conducted between 1st and February 28th, 2010. In all cases, the method used to collect information was personal survey (face-to-face).

3. Results and discussions

The sample consisted of 385 respondents, approximately two thirds of whom are women (66.3%) and 33.7% men. This sample structure is considered as representative assuming that mainly women are responsible for their family shopping.

Regarding the age, 15.7% of the respondents belonged to an age group between 18 to 24 years, 21.6% from 25 to 34 years, 23.4% between 35 and 49 years, 20.2% between 50 and 64 years and respectively, 19.1% 65 years or more.

Regarding family structure 21.9% of the respondents come from families consisting of two adults, 26.8% from families consisting of two adults and one child, 38.7% of families consisting of two adults and two children, 4.4% of families consist of two adults and three or more children and 8.2% of respondents are in other situations. Regarding the education level of the respondents 10.3% are graduates of secondary level, 17.5% graduated professional level, high-school graduates 27.2%, 35.2% of university level and respectively 9.8% of postgraduate level.

What regards the socio-professional category of the respondents, most of them were employed in contract work (69.4%), 11.3% were retired, 11.3% were housewives, 3.2% were employed part-time while the remaining 5.8% were unemployed. In addition, the average income per family member ranged as follows: 14.4% below 500 lei, 18.1%

between 501 to 700 lei, 33.1% from 701 to 1000 lei, 18.8% between 1001 - 1500 lei and respectively, 15.6% over 1500 lei.

Of the 385 respondents, 9.87% appreciated criterion „healthy food” as most important in food choice (Fig. 1) and 32.99% considered this criterion as of great important in their consumption habits (Fig. 2).

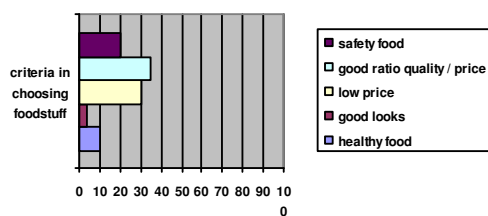


Fig 1. The opinion of the consumers regarding the criteria of food choices

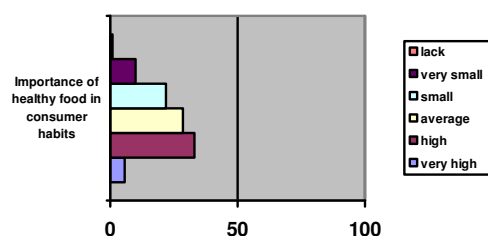


Fig.2. The importance of healthy food in the consumption habits of the consumers

In the potential consumers opinion the most important factors that condition the decision to purchase food with health benefits are the high percentage of the health foods price than that of the conventional products price (29.87%), of the good information for consumers (21.56%) and their concern for the prevention of risks of disease (18.96%).

Out of the total of 22.08% of the respondents felt that buying food with health benefits is very necessary, 37.14% thought that is necessary, 33.51% that these foods have a low necessity, and 7.27% considered that the acquisition of these foods is not necessary.

In terms of frequency of purchase of food with health benefits 33.77% of the respondents said that they do this once a week, 32.47% more than once a

week, and 22.86% more than once per month, 9.35% monthly and 1.56% rarely. Regarding the decision to purchase and consume of foods with health benefits for 33.25% of the respondents there was an initial programming, to 57.66% was the result of an impulse and to 9.09% was due to the absence from shelves of conventional products.

Regarding share of foods with health benefits in diet, 61.82% of the respondents said that healthy foods are present in their diet at a rate below 25%, 31.43% consume healthy food in a proportion ranging 25 - 50%, while only 6.75% of the respondents said that eating foods with health benefits ratio exceeds 50%.

The main motivation for which the potential consumer does not buy foods with health benefits remains the price (30.13%), followed by the lack of any conditions to justify such use (17.92%), fear of side effects that these foods might have (16.10%) and preference for organic food (15.58%).

The variables that can attract the interest of consumers towards consumption of foods with health benefits are the particulars specified on the food label for 33.77% of the respondents, increased personal interest in the health through diet, for 28.31% of the respondents and respectively, promoting foods with health benefits for 28.05% of the respondents.

On consumers' favorite place where to find foods with health benefits 52.73% of the respondents opted to find these products on the shelves, along with other conventional products, 32.21% of respondents opted for an arrangement of special districts in the shops, while 15.06% of the respondents considered an appropriate arrangement of specialized shops in marketing these products.

Regarding the potential user opinions on what can be ensured, namely, that the food can support a good health body, views are divided fairly balanced (Fig. 3).

Out of the total of 74.29% of the respondents considered as important to authorize health claims on food by specialized bodies in the field, while 14.03% did not consider important this fact and 11.69% of the respondents did not acknowledge the need of authorization. Regarding the need for scientific evidence to support the health benefits of food 64.94% of the respondents considered that it is necessary, 9.87% of the respondents do not support

this, 14.55% of the respondents believe that such evidence is not necessary, while 10.65% are not aware of the need for scientific support.

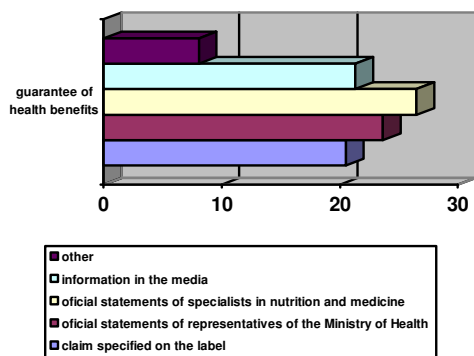


Fig. 3. Elements to ensure the support of health benefits of foods

Most of the respondents (89.35%) considered as adequate the need of public communication of health benefits of foods, 6.79% of the respondents do not know and only 3.90% of the respondents considered that a public communication of the food benefits is not necessary. Views on the elements that should be communicated to the public about foods with health benefits were diversified.

Regarding the respondents view on the central body activity and on the legislation adopted for food with health benefits, most respondents (69.61%) declared that they do not realize the extent to which that law provides support and promotion of functional food or adequate consumer protection, which shows a poor communication with them.

When asked if they are willing to pay more for a food with health benefits that meets the same needs as conventional foods, but does not fall within healthy products, 65.19% of the respondents answered negatively, while only 34.81% responded affirmatively. Of the 134 respondents who said they can pay more to purchase a product with health benefits, 37.31% said that they could support a price 25% higher than the price of a conventional product, 43.28% were said that they may support a price by 26-49% higher than the price of a conventional product and only 19.40% said they may support a price of more than 50% higher than the price of a conventional product.

4. Conclusions

Today consumers want to know as much about the products they consume. They are becoming increasingly concerned about issues related to nutrition, health claims, food safety, food labeling, safety of food additives and ingredients used, and the effectiveness of inspection processes.

In this study 74.29% of the respondents considered important to authorize health claims for food by specialized bodies in the field. Also, in the consumers view it is essential that these claims be based, and conducted on scientific information. Thus, a hard task of research is needed to confirm the health benefits of each functional food or component of them. To transfer the potential benefits of functional foods on the health of the population, consumers must clearly understand this concept and have confidence in the scientific criteria used to support health claims.

The research results present the importance of communicating the food health benefits to the public, the vast majority of the respondents (89.35%) considering it necessary. Regarding the way to ensure the health benefits of foods the respondents' opinion was as follows: 20.52% by the present claims on the label or packaging of the product, 23.64% by official statements of representatives of the Ministry of Health, respectively, 26.49% by official statements of specialists in nutrition and medicine. An opportune and effective communication can help consumers obtain important information that has a positive impact on health and welfare. Also, basic education in nutrition will have a continuing role to play in ensuring that the benefits of functional foods are well understood.

The main motivation for which the potential consumer does not buy foods with health benefits remains the price (30.13%), followed by the lack of any conditions to justify such use (17.92%), fear of side effects that these foods might have (16.10%) and preference for organic food (15.58%). Thus, is a real challenge for the manufacturers to ensure the accessibility of functional foods by charging prices that are not very high compared to those of traditional products.

5. References

- * E-mail address: micky_eve68@yahoo.com
- [1]. I. Cătoi, C. Bălan, C.I. Popescu, G. Orzan, C. Vegheș, T. Dănețiu, and D. Vrânceanu, *Marketing research*, (in Romanian) Uranus Publishing, Bucharest, 2002;
- [2]. I. Cătoi, C. Bălan, B. Onete, I.C. Popescu and C. Vegheș, *Methods and techniques used in marketing research* (in Romanian), Uranus Publishing, Bucharest, 1999;
- [3]. J.R.III Crouse, T. Morgan, J.G. Terry, J. Ellis, M. Vitolins, and G.L. Burke, *Arch. Intern. Med.* **159**, 2070-2076; (1999)
- [4]. J. Howlet, *Functional foods: From science to health and claims*, International Life Science Institute, Brussels, 2008, <http://europe.ilsa.org/NR/rdonlyres/97C50D2F-8DDB-415F-AC6C-E20ED1B5E7D1/0/FunctionalFoods2008.pdf>. Accessed 03 June 2009.
- [5]. P.J. Jones and M. Raeini-Sarjaz, *Nutr. Rev.*, **59**, 21-24 (2001)
- [6]. P.J. Jones, M. Raeini-Sarjaz, F.Y. Ntanios, C.A. Vanstone, J.Y. Feng and W.E. Parsons, *J. Lipid Res.* **41**, 697-705 (2000).
- [7]. K. Menrad and K. Sparke, *Consumers' attitudes and expectation concerning Functional Food*, University of Applied Sciences of Weihenstephan, Germany, 2006
- [8]. S.F. Olsen, and N.J. Secher, *Br. Med. J.* **324**:1-5 (2002).
- [9]. R.E.Jr.Ostlund, *Annu. Rev. Nutr.* **22**, 533-549 (2002)
- [10]. R. Shepherd In: Ashwell, M., *Why we eat what we eat*, London: The British Nutrition Foundation, 1990, pp. 12-31;
- [11]. A.P.Simopoulos, *Am. J. Clin. Nutr.*, 560S-569S (1999)
- [12]. W. Verbeke and J. Viaene, In: Frewer, L., et.al.: *Food, People and Society*, Berlin: Springer-Verlag, 2001
- [13]. ***, *International Food Issues & Resources*, 2007-2009 IFIC Foundation Media Guide on Food Safety and Nutrition, Washington, DC, USA, 2007, <http://www.ific.org/nutrition/functional/index.cfm>.
- [14]. ***, *Potential Benefits of functional foods and Nutraceuticals to the Agri-Food Industry in Canada*, Final Report on Behalf of Agriculture and Agri-Food Canada, Scott Wolfe Management Inc, 2002.