



EXTENDED ABSTRACTS

Functional food between nutritional value and hormonal influences

Ahmed O Shalaby*

Professor of nutrition and food science, Home Economic Department, Faculty of specific education, Mansoura

E-mail: aosmanshalaby@yahoo.com

ABSTRACT

Functional foods are foods that have a potentially good effect on health beyond basic nutrition. Proponents of functional foods are they promote maximum health and help reduce the risk of disease. Functional foods range from cereals and bars enriched with folic acid to your average tomato or cup of green tea, while nutraceuticals are more commonly sold in pill form. The level of consumption of the food that is required to achieve a beneficial effect on health is an important consideration. Human nutrition, process by which substances in food are transformed into body tissues and provide energy for the full range of physical and mental activities that make up human life. The study of human nutrition is interdisciplinary in character, involving not only physiology, biochemistry, and molecular biology but also fields such as psychology and anthropology, which explore the influence of attitudes, beliefs, preferences, and cultural traditions on food choices. Human nutrition further touches on economics and political science as the world community recognizes and responds to the suffering and death caused by malnutrition. The goal of nutritional science is to promote optimal health and reduce the risk of chronic diseases such as cardiovascular disease and cancer as well as to prevent classic nutritional deficiency diseases such as kwashiorkor and pellagra. Hormones are chemical messengers released from endocrine glands that travel through the blood system to influence the nervous system to regulate behaviors such as aggression, mating, and parenting of individuals. Notions of what constitutes a healthful diet vary with geography and custom as well as with changing times and an evolving understanding of nutrition. In the past, people had to live almost entirely on food that was locally produced. With industrialization and globalization, however, food can now be transported over long distances. Researchers must be careful in generalizing about a national diet from a relatively small sample of the population; the poor cannot afford to eat the same diet as the rich, and many countries have large immigrant groups with their own distinctive food patterns. Even within a culture, some people abstain on moral or religious grounds from eating certain foods. In general, persons living in more affluent countries eat more meat and other animal products. By comparison, the diets of those living in poorer, agricultural countries rely

primarily on cereals in the form of wheat flour, white rice, or corn, with animal products providing less than 10 percent of energy. Another difference between cultures is the extent to which dairy products are consumed. The Chinese, for example, obtain about 2 percent of their energy from dairy products. In contrast, in Pakistan dairy products contribute almost 10 percent of energy. Among Western diets, the lowest in saturated fat is the so-called Mediterranean diet. In particular, it should be possible to achieve the required level of intake of the functional food or ingredient within normal dietary patterns. Often, a food is termed functional because it contains a high number of phytochemicals. These natural, active plant chemicals have been found to boost health. Phytochemicals are plentiful in fruits, vegetables, whole grains, soy foods, and many herbs and spices (parsley, chives, garlic and ginger). The presence of antioxidants in a food is another reason it can be termed "functional". Antioxidants, such as vitamins A, C, E, and the mineral selenium, work to destroy harmful particles in the blood that can lead to heart problems and other complications. Examples of foods with antioxidants include tea (catechins), wine or grape juice (resveratrol), berries (flavonoids such as quercetin), and maple syrup and citrus foods (flavonoids/limonoids). Functional foods may provide benefits in health terms but should not be an alternative to a varied and balanced diet and a healthy lifestyle. In order to maximize health and wellbeing, Functional foods do not provide a miracle solution to health problems but may be useful to some people as part of a healthy diet and lifestyle. Examples of functional foods that have hormonal effects, especially on sex hormones, are maple syrup, where it was found to be the administration of fortified meal with maple syrup (especially, at higher concentration 20 ml followed 10 ml) improved the primarily at the sperm parameters, hormones parameters level and activities of antioxidant enzymes that may be due to effect of sodium valproate on endocrine function in male rats. The high amount of phenolic and flavonoid compounds is likely to be responsible for the higher antioxidant activity of the maple syrup.

Keywords: hormones, cognitive functions, Diet, Functional foods, Human nutrition.

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