

Review Article

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Functional Foods: Impact of Foods that Improve Health and Quality of Life

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ABSTRACT

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This scientific review article is conducted in order to verify the impacts that functional foods have on health and quality of life of people. A functional food is that which satisfactorily demonstrates beneficial effects on one or more specific functions of the organism, due to the fact that it possesses intrinsic nutritional agents. Therefore, functional foods are appropriate to improve the state of health and human well-being, reducing the risk of diseases, mainly to vulnerable groups of people such as: pregnant women who in the pre-natal stage require sufficient nutrients for the normal development of the fetus; people with susceptibility to allergenic agents from food and groups of people of all ages who require special diets. Currently, functional foods are managing to solve this type of affectations.

Introduction

Historic moment (Trescastro Lopez and Bernabeu Mestre, 2015). This can be found associated with our eating habit since they can cause diseases with future development such as cancer, allergic conditions, poor gestation processes in pregnant women or other groups of people such as children, older adults, athletes, etc. (Illanes, 2015).

Functional foods

A food can be considered functional if it is satisfactorily demonstrated that it exerts a beneficial effect on one or more selective functions of the organism, in addition to its intrinsic nutritional effects, in such a way that it is appropriate to improve the state of health and well-being, reduce the risk of disease, or both (Olagnero *et al.*, 2017). These do not

constitute a group of foods as such, but result from the addition, substitution or elimination of certain components to the usual foods. The broader sense of the concept of a functional food can be a traditional food, such as fish for example. its high content of omega 3 fatty acids, a modified food such as milk enriched with omega 3, or in turn, a food component such as omega 3 fatty acids, which has cardio-healthy properties. Among modified foods. These can also be found in dairy products (Beltrán de Heredia, 2016) tells us that we find a type of milk for infants that has fatty acids, milk enriched with calcium, vitamins A and D, with omega 3 fatty acids, yogurts added with calcium and vitamins A and D, juices with vitamins and minerals, cereals that are added with fiber and minerals, margarines with phytosterols, eggs with omega 3 or iodized salt. These foods can be intended for the entire population or for specific groups, which can be defined, for example, according to their age or genetic makeup, they also provide additional physiological benefits beyond meeting basic nutritional needs (Fuentes Berrio, Gelvez, and Gezvez Ordoñez, FUNCTIONAL FOODS, 2015).

Pregnant women

Physiological and metabolic changes occur in pregnancy, which demand greater nutritional requirements for the formation of maternal tissues, to move additional body mass, as well as for the growth and development of the fetus, which makes pregnant women one of the groups more vulnerable to nutritional deprivation, therefore functional foods are important to take into account within the diet of a future mother, as they can play a determining and healthy role as long as the lifestyle is appropriate, they are a complement but of In no way do they cure, or prevent diseases or possible alterations, during pregnancy a healthy and balanced diet is essential since the purpose is to feed the

mother's body and that of the future baby so that it develops and grows properly (Vance Mafla, 2014). Functional foods are incorporated into the diet of pregnant women because they provide an accumulation of vitamins and minerals at the service of the body, iodine, folic acid and iron among others, these foods can also help during pregnancy to prevent problems such as infections urinary or constipation, problems that are frequent among pregnant women (Viñanzaca Tuapante and Yupa Saeteros, 2018). In short, there are a large number of functional foods suitable for certain functions and that we must take into account for a better development of the future baby such milk, yogurts, cereals, juices, salts, etc. (Table 1)

Allergies

Allergies are generating great interest since the beneficial effect of the use of functional foods as treatment and prevention of atopic patients has been observed, the beneficial effect in the treatment of atopic eczema in infants a study carried out in 75 mothers with atopic eczema, allergic sinusitis or asthma for a month before delivery and their children 6 months later, who were given a strain of *Lactobacillus rhamnosus* GG, resulted in a decrease in the frequency of eczema: 23% in children whose mothers consumed said strain against 46% in children whose mothers were given a placebo (Lemoine and Tounian, 2020).

According to (Dutau, 2016) cow's milk allergy is the most common allergy in infants, but it has a good prognosis and its cure is often achieved before 3 years of age, before food diversification, when not breastfeeding can be continued, infant milk is replaced by an extensive cow's milk protein hydrolyzate or by a rice protein hydrolyzate, after 4 months at the time of diversification, the products should continue to be avoided dairy such as butter, yogurt ingest live bacteria show a trend

towards a reduction in gastrointestinal and respiratory disorders, although no differences have been found in terms of IFN- γ production, in adult patients with asthma after ingesting 225 g of milk fermented with *Lactobacillus acidophilus* twice daily for 1 month, an almost significant increase in IFN- γ levels and a decrease in eosinophilia have been found (Amat *et al.*, 2018).

The bacteria of the intestinal flora intervene in the prevention of allergy and do so by the induction of antiallergic processes such as the stimulation of Th1 cell immunity, the production of the growth factor TGF- β , essential in the suppression of inflammatory processes in allergy, oral tolerance and immunoglobulin A production in the intestinal mucosa (Illanes, 2015).

Food allergens

Food allergy is an exaggerated immune response of the body when eating certain types of food, it is produced by an error in the immune system that detects food as a harmful substance for the body and responds by generating specific antibodies, the immune response can be reproduced each time the food is ingested, a phenomenon we call sensitization.

Food allergens or trophallergens are generally glycoproteins with a molecular weight of 10-70 kilodaltons (kD), 10 kD is the lower limit to be immunogenic, that is, to induce an immune response, and 70 kD, the upper limit to be absorbed at the digestive level. A food contains several allergenic proteins, of which major allergens are called those recognized by more than 50% of sensitized patients. The treatment of food allergy is based on the control of the food environment, the doctor will prescribe the avoidance diet after a

thorough allergological study, this diet excludes the identified allergens, followed correctly, it is very effective: 83% of patients with an Atopic dermatitis associated with one, the doctor will avoid prescribing medications that may favor or worsen the clinical manifestations of food allergy, blockers, angiotensin converting enzyme inhibitors, aspirin, and non-steroidal anti-inflammatory drugs (Simmon, 2015).

Symptoms that we can find in food-induced allergic reactions are varied and can affect:

Skin erythema, itching, urticaria, morbilliform rash, angioedema.

Eye pruritus, conjunctival erythema, lacrimation, periorbital edema.

Upper respiratory system nasal congestion, itching, runny nose, sneezing, laryngeal edema, hoarseness, dry cough.

Lower respiratory system cough, chest tightness, dyspnea, wheezing, intercostal retraction, use of accessory muscles.

Gastrointestinal tract labial, lingual or palatal angioedema, oral pruritus, nausea, colicky abdominal pain, reflux, vomiting, diarrhea.

Cardiovascular system tachycardia occasionally bradycardia in anaphylaxis, hypotension, loss of consciousness.

Another group of people

The groups of people that can be included in this work, are people who are able to consume them, with this we speak of; athletes, people suffering from cancer, older adults and children.

Table.1 Nutritional composition of the portion by food item in the pregnancy period

Grupo	Porción	Calorías Kcal	Proteínas g	Grasa g	Carbohidratos g
Lácteos	3	303	18	21	15
Carnes	2	200	14	14	4
Cerelae	6	882	24	12	174
Tubérculos y raíces	3	207	3	0	51
Verduras	4	100	8	0	20
Frutas	3	159	3	0	51
Aceites y grasas	3	270	2	30	0
Azucares	4	176	0	0	40
Totales		2297		77	355

Source:(Cerruto Gutiérrez, 2014)

In athletes we know that since ancient times, there are references to nutritional strategies that were used by Olympic athletes in order to improve performance, taking meat and meat as the basis of their nutrition. animal protein, instead of cereals, fruits, cheese, in order to improve their strength and muscles (Pruna and Lizarraga, 2019).

The response of this position adopted by athletes is due to exercise training, which is determined by a combination of factors such as: duration, intensity and time of exercise, as well as the frequency of training, but also by the quality and quantity of nutrition in the pre and post-exercise period, that is why it is increasingly clear that adaptations are required by the type of exercise, which can be amplified or dampened by nutrition (Goodpaster and Sparks, 2017).

That is why exercise requires functional foods, since the body fulfills a physiological function that requires a high metabolic meta-flexibility, in order to match fuel availability with the internal metabolic machinery, to cope with

enormous increases in energy demands (Jeukendrup, 2017).

However, there are also groups that absolutely require these foods, such as people who suffer from catastrophic diseases such as cancer, since it is a disease present worldwide that is related to the interaction of genetic, hormonal factors and habits of a life not healthy, such as the consumption of tobacco or alcohol, emotional stress and an inadequate diet (Colombia.com: vida y Estilo, 2016).

Currently there are important studies in the group of people suffering from cancer, where it has been observed that certain components, present in many traditional food products, can reduce the risk of developing various types of diseases such as cancer (BELRÁN DE HEREDIA, 2016). The foods that can be consumed by this group of people are tomato, green tea etc.; I foods that contain bioactive components to fulfill the function of not allowing the oxidation of cells, producing cancer. These functional foods are widely found, however, this product is required by

older adults, since with the need to obtain components for health and aging, carotenoids are required, which are antioxidant compounds, which are capable of inhibiting or delaying injuries caused by free radicals, which are molecules with one or more unpaired electrons, which react quickly with different cell targets, causing damage that is associated with degenerative diseases and the inevitable aging at a higher speed (Arias *et al.*, 2018).

And last but not least, in this study find out the most complicated group, and it is its application in the group of growth and development in childhood, since early feeding lies in modulating the growth, functional development and functionality of the system. immune. Growth is associated with increasing height and weight, development refers to the progressive changes that take place in tissues and organs as they carry out their specific functions in proper growth (Fuentes-Berrio *et al.*, 2015).

This research is supported by the compilation of scientific articles, where we clearly find relevant information about the benefits of functional foods that contribute to the health of the consumer, thus being a source of sustenance in the daily diet of each group of people, with in order to improve the quality of life by providing a new alternative in prevention and treatment, strengthening the body in a healthy way against future complications.

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