

Gastrointestinal, Physiological Functioning of Food.

Caroline Thomas

Department of Food Technology and Preservation, University of Sher-e-Bangla *Agricultural*, Dhaka, Bangladesh

Commentary

Nutritional determinants during early development have long-term implications on health, disease, and mortality risks in adulthood, as well as the development of neural functions and behaviour, phenomena known as "metabolic programming." Many of these programming effects could be explained by the interaction of nutrition and gene expression, which has to be researched further. The relationship between the availability of food ingredients and cell and tissue differentiation, as well as its potential applications in boosting health and development needs to be investigated further [1]. The intake of foods, particularly micronutrients, affects the course of pregnancy, childbirth, and lactation, as well as the composition of human milk and the child's short- and long-term outcomes [2]. Epidemiological and field investigations, as well as evaluations of specialized cellular growth, are needed to assess the effects of nutrition on child growth. Food elements such oligosaccharides, gangliosides, high-molecular-mass glycoproteins, bile salt-activated lipase, and pre- and probiotics can affect intestinal growth, maturation, and adaptation, as well as long-term function. Functional foods seem to have some positive effects on the immune system's development [3].

Nanotechnology is a rapidly expanding field of research and technology that is primarily focused in particles with diameters of 1 to 100 nanometres. This technology has the ability to provide materials at the molecular or atomic scale new biological, physical, and chemical properties. Nano scale structures have sophisticated and innovative features as compared to macro scale materials and this has sparked interest in a variety of fields, including the electronic, computer, textile, and medicinal industries. Because of their complicated architecture and sensitivity, nanotechnology applications in the food industry have progressed more slowly than in other fields. The gut, as the interface between diet and the metabolic activities that support life, is an obvious target for the development of functional foods [4].

The impact of various foods on behavioral and psychological processes is a topic that the general public is both interested in and concerned about. The scientific literature on proven cause-

and-effect linkages is discussed in this article, starting with methodological issues unique to the measurement of certain behaviours and psychological occurrences. Food's primary purpose is to satisfy hunger and provide needed nutrients. The effects of macronutrients on hunger and fullness, as well as their impact on metabolism and energy balance are discussed. The role of functional qualities of macronutrient substitutions and flavour enhancers to hunger, satiety, and energy balance is investigated [5].

References

1. Koletzko B, Aggett PJ, Bindels JG, et al. Growth, development and differentiation: a functional food science approach. *British J Nutrition*. 1998;80:S5-45.
2. Salminen S, Bouley C, Boutron MC, et al. Functional food science and gastrointestinal physiology and function. *British J Nutrition*. 1998;80:S147-71.
3. Bellisle F, Blundell JE, Dye L, et al. Functional food science and behaviour and psychological functions. *British J Nutrition*. 1998;80:S173-93.
4. Ballongue J, Schumann C, Quignon P, et al. Effects of lactulose and lactitol on colonic microflora and enzymatic activity. *Scandinavian J Gastroenterology*. 1997;32:41-44.
5. Bedenne L, Faivre J, Boutron MC, et al. Adenoma-carcinoma sequence or 'de novo' carcinogenesis? A study of adenomatous remnants in a population-based series of large bowel cancers. *Cancer*. 1992; 69: 883-888.

*Correspondence to

Dr. Caroline Thomas

Department of Food Technology and Preservation,

University of Sher-e-Bangla *Agricultural*,

Dhaka,

Bangladesh,

E-mail: carolinethomas2345@yahoo.com