

## Editorial

# Nutraceuticals: An Healthy Bet for the Future

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This Issue of the Journal of Food Research, dedicated to the IX Italian Congress on Food Chemistry, ChimAISi 2012 (Ischia, Napoli, Italy-June 3-7), collects selected manuscripts presented at the Congress, and proposes some aspects and an in depth look of many subjects related to food, that have been the focus of the ChimAISi 2012. The Scientific Committee, formed by Proff. Ettore Novellino, Luca Rastrelli, Alberto Ritieni, and Antonello Santini, made this event unique as it has been enriched by the participation of more than 300 delegates, including many young researchers from different Countries. On behalf of the Scientific and Organizing Committees, I would like to take the chance to thank here all the speakers and the participants, that gave their valuable contribution to the brilliant success of this scientific event. The Congress represented a challenging chance for scientists, regulators, and industry representatives, to meet and share aspects of cutting edge knowledge in the field of Food Chemistry, new research lines, and potential development opportunities to provide the market with higher quality food and nutraceuticals. The IX Italian Congress of Food Chemistry included 12 plenary lectures, 66 lectures, and 290 poster presentations. Two Workshops focused on food contaminants and on the role of food in human health, completed the program of the activities, that covered a wide variety of food related topics ranging from food contaminants and food quality to new analytical approaches, nutritional and health aspects, food integrators, medical foods, nutraceuticals. The scientific contributions were divided in four homogeneous sessions dedicated to food safety, techniques of food analysis, bioactive compounds, and nutraceuticals. These last food-derived compounds, mostly of vegetal origin, are starting to be considered the challenge for the future in the field of Food Chemistry and Nutrition, as a valid low cost, environmental friendly sources alternative to drugs as active supplements for the prevention and to support the therapy in many different health conditions.

Foods are associated to hedonistic, ethical, social, and cultural aspects, other than to the healthy peculiarities that are required to enhance and support consumers health and well-being. The concept of food safety and quality has greatly evolved in the recent years, adding to the food not only safety and nutritional requirements, but also a role in preventing or even supporting medical therapies for some chronic conditions mostly occurring in Western Societies. Food Companies responded to these pressing needs from consumers and retailers with the *ad hoc* development and marketing of novel foods, and with higher overall quality standard and added health value.

A paradigm of this new trend are the nutraceuticals, the food integrators and the medical foods. The term “nutraceutical” is a *portmanteau* of the words “nutrition” and “pharmaceutical”, and it has been coined in 1989 in Rome by Stephen De Felice, an MD, founder and President of the “Foundation for Innovation in Medicine”. The Merriam-Webster’s dictionary defines as “nutraceutical” a food that provides health benefits in addition to its nutritional content. This definition seems to make direct reference to the words of Hippocrates “Let your food be your medicine and your medicine be your food”.

A nutraceutical is a food (or part of a food) that produces beneficial effects for health, including the prevention and/or treatment of a disease. It is a “food-drug”, which combines the highly digestible and hypoallergenic properties of food with the healing properties of natural active ingredients with proven and recognized effectiveness. The active substances extracted from plants, concentrated and administered in a suitable dose using the appropriate pharmaceutical form are nutraceuticals.

The growing interest not only in the world of research, but also in consumers towards nutraceuticals, dietary supplements, medical and functional foods, stems from the growing awareness of the possible side effects of drugs as well as from the need to prevent the occurrence of pathological conditions.

The proper use of nutraceuticals could reduce the onset of diseases by preventing them, in particular for the so-called lifestyle related pathologies, e.g. the metabolic syndrome, that is strongly linked to improper lifestyle and to improper food use. The shortening “beyond diet, before drug”, coined by Ettore Novellino in 2012, clearly addresses the term of reference of the nutraceuticals importance: their effectiveness can be observed including them in the daily diet to prevent the onset of a pathologic conditions and hence before the need to use a drug to cure the symptoms deriving from the onset of an health condition.

The use of active principles of vegetable or animal origin as therapeutic agents has ancient origin, and has been shown to have an efficacy at least comparable to that of the drugs in the treatment of various pathological conditions including hypertension, depression, Alzheimer's disease and the metabolic syndrome.

In general, the symptoms indicate an alteration and/or organ damage already in place and, usually, the association symptom-disease-diagnosis-followed by the appropriate pharmacological therapy is the most common one in the collective imagination. The disease is in fact understood as a biomedical organic lesion or as aggression by external agents. However, the concept of disease should not only be limited to the biomedical component (disease) and to the subjective component (illness), but should also consider the disease as a recognized social condition that causes different problems that must be contextualized.

Once you start taking a medication, it is expected that the molecules introduced into the body produce the healing. This approach can be defined as “waiting medicine”: the patient simply wait when the disease occurs or it is already in an advanced stage of progression, and there is hence a possible organ damage. Considering, for example, that nowadays many diseases occurring in the Western Countries are connected to the so-called metabolic syndrome, it would be important to activate the opposite approach, the “initiative medicine” that consists in preventing the onset of the condition rather than wait until it manifests itself with the specific associated symptoms. The global adoption of the “initiative medicine” as a programmatic strategy for the prevention and helping of the well-being state of health and physical well-being passes mainly through the rational use of food integrators, medical food, and nutraceuticals.

The rationalization and accurate information on this overall approach that could be named “nutraceutical” to the metabolic syndrome, mainly due to a wrong dietary habit, could lead for example to an overall improvement of the health status of the population and to a lower use of the support of the Public Health Service, more and more oriented to restrict the supply of services and drugs in favor of improving the life style with the goal of minimizing the appearance of pathological conditions with a preventive approach.

The primary objective of the WHO set in 1947: getting a complete physical, mental and social being healthy with the absence of disease, a “well-being” status, is a condition that depends mainly on lifestyle and on food intake, e.g. the right micro and macro nutrients balance from the diet.

While until a few decades ago there was the need to achieve the “well-being” status and effective fight against diseases, with the desire of adding years to life, now there is also the simultaneous need to add life to the years. The achievement of this result requires an approach that includes the familiarization with preventive medicine, the proper lifestyle, a correct use of food in the diet, and the inclusion of food integrators, medical foods and nutraceuticals in the daily diet as preventing agent essential for well-being and for adding life to the years. A bet for the future.

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