Nutri Scene

DR TEE E SIONG
starhealth@thestar.com.my

Functional food for thought

International conference discusses functional food science.

FUNCTIONAL foods continue to attract a great deal of attention among the scientific community as well as the public. In this instalment of *NutriScene*, I would like to share with readers insights from an international conference on functional foods which I attended in Malta in early May 2007.

On this historical Mediterranean island, over 300 nutrition scientists gathered to discuss international developments in functional foods. The main topics discussed included evolution in dietary patterns, health trends and functional foods; and consumer perspectives. I was invited to speak on scientific substantiation of claims and regulatory issues. The conference was organised by the European branch of the International Life Sciences Institute (ILSI).

Functional foods – foods beyond basic nutrition

Prof Nils-Georg Asp of the Swedish Nutrition Foundation and overall Chair of this international symposium presented a key paper on the concept of functional foods.

According to Prof Asp, the present interest and developments in functional foods stem from (1) increased scientific understanding of the importance of food constituents and properties for health; (2) opportunities for the food industry to develop, on this basis, foods with added value that the consumer is willing to pay for, and (3) new possibilities to increase consumers' health and well-being and to help combat current diet-related diseases.

New scientific developments offer a range of possibilities to increase the health-promoting properties of food products, by adapting their micronutrient content as well as the balance and composition of macronutrients, but also more and more by providing health benefits through bioactive non-nutrients and specific structural properties regulating the release of food components to the body.

There is no internationally recognised definition of functional foods. According to the Functional Food Science in Europe project (FUFOSE), "a food can be regarded as functional if it's satisfactorily demonstrated to affect beneficially one or more target functions in the body, beyond adequate nutritional effects in a way which is relevant to either an improved state of health and well-being and/or the reduction of risk of disease".

Hence, innovative products with physiological effects substantiated with randomised controlled trials in humans consuming the product at realistic conditions can be regarded as the core type of functional foods according to the FUFOSE definition.

I was rather surprised that there was still considerable discussion in the Malta conference on the subject of definition of functional foods. I am of the opinion that the FUFOSE definition, developed after detailed consultation amongst a large number of experts, should suffice.

ILSI Southeast Asia has organised a number of consultations among Asian nutrition scientists and the generally agreed definition is similar to that given by FUFOSE.

Functional foods should:

(1) Be in conventional food forms and possess sensory characteristics including appearance, colour, texture, consistencies and flavours;

(2) Contain nutrients and/or other substances that confer a physiological benefit over and above basic nutritional properties. These substances should not be used at levels for medicinal or therapeutic purposes;

(3) Possess functional benefits that can be scientifically proven;

(4) Possess functional benefits that can be derived by consuming normal amounts of the foods;

(5) Contain "functional" nutrients and/or other substances that may be naturally present or be added to the food; and

(6) Have been proven to be safe over long term usage for the intended target population based on existing science.

Substantiation of health claims on foods

There is no legal definition of functional foods in any regulatory agency in the world. In Europe, regulatory agencies regard functional foods as foods eligible for health claims. A major portion of the Malta conference was dedicated to discussions on substantiation of claims and regulatory issues.

Dr Peter Aggett of the University of Lancashire, UK and member of the Steering and Consensus Groups for FUFOSE and PASSCLAIM (Process for the Assessment of Scientific Support for Claims on Foods) provided an overview of the criteria for scientific substantiation of claims on foods.

Led by ILSI Europe, PASSCLAIM aimed at producing a generic tool for assessing the scientific support for health claims for foods. The process involved more than 160 experts from academia, industry, public interest groups and the regulatory agencies and was supported by the European Commission.

For this region, I provided a summary of the series of workshops organised by ILSI SEAsia from 2001-2006, participated by officials from regulatory agencies and nutrition scientists from Southeast Asian countries, Korea, Japan, India and Australia.

These meetings provided opportunities for participants to be familiarised with international and regional regulatory developments in nutrition labelling and claims. They enabled participants to share experiences in evaluating scientific data submitted for substantiation of claims.

Output from these meetings include guidelines for the scientific substantiation of claims, guidelines for evaluation of safety of functional foods and proposed regulatory frameworks for claims on food. It is hoped that these efforts will provide impetus towards harmonising scientific substantiation of claims in the region.

In Malaysia, the term functional foods is also not used in the regulatory system. However, foods with nutrition and health claims are permitted.

There is presently a list of permitted function claims with specific criteria to be met. This list includes nutrients (such as vitamins and minerals) as well as other food components, such as plant sterol and dietary fibre.

Consumer perception and behaviour

I find several presentations on communicating the concept of functional food science to consumers, their understanding and impact, rather interesting.

The industry would naturally like to highlight the additional "functional benefits" of their food innovations to the consumers through claims. The challenge is of course how to communicate the claims to the consumers convincingly. No matter how beneficial the product is supposed to be for health, if the consumer is not convinced of the need for the benefit, then the product will not sell.

According to Edward Fern from a multinational company based in Switzerland, despite the increasing public awareness of health, the perception and acceptance of functional foods by consumers is not as well developed.

In his presentation on the marketing of functional foods, he emphasised that understanding consumer needs and the ability to communicate with them in an understandable way is the major obstacle in the further development of functional foods. It is a question of balancing rational and irrational (emotional) approaches.

Jons Lönneker of Germany pointed out that not every health claim is perceived in the right way or well-accepted by consumers.

Functional foods contain nutrients and/or other substances that confer a physiological enefit over and above basic nutritional properties. These substances should not be used at levels for medicinal or therapeutic purposes.

This is obviously an extremely complex subject and a great deal remains to be understood, to be learnt. Locally, and elsewhere in the region, there has been no major studies on consumer understanding and perception of functional foods.

The food industry in this country is fully aware that health claims communicated to the consumer must be accurate, scientifically substantiated and not misleading. I am sure there will be efforts made to communicate positive messages to the consumer ethically.

**ILSI is a non-profit, worldwide foundation established in 1978 to advance the understanding of scientific issues relating to nutrition, food safety, toxicology, risk assessment and the environment. ILSI is headquartered in Washington DC, USA. There are branches across the globe. More information can be obtained from the ILSI global website: www.ilsi.org, the European branch: http://europe.ilsi.org/ and the Southeast Asia branch: http://southeastasia.ilsi.org/ . In Malaysia, an ILSI Country Committee has also been established since November 2006.*

■ *NutriScene is a fortnightly column by Dr Tee E Siong, who pens his thoughts as a nutritionist with over 30 years of experience in the research and public health arena. For further information, e-mail starhealth@thestar.com.my.*

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