

Research on functional food in malaysia

[Food & Diet](#)



Consumer demands in the production of foods have changed drastically in the last few decades. Food that were previously seen as source of nourishments to survive hunger and to supply essential nutrients requirements are now perceived as tool to improve health status and reduce risk of getting chronic diseases (Roberfroid, 2000). Consumers around the globe are increasingly aware that today's foods have the capabilities to give positive physiological effects on human health and well-being besides reduce the risk of nutrition-related diseases such as diabetes and cardiovascular diseases (Mollet & Rowland, 2002). Functional foods play major role in this context, thus explaining the increasing demand of this food category in today food market. People's desire to improve life expectancy and life quality while undergoing aging process besides lessen their costs of health care motivates food industry to develop more functional food products to supply the growing demand (Roberfroid, 2000).

Currently, there is still no globally accepted definition of functional food despite growing researches and studies conducted on these food products (Roberfroid, 1999). Different countries defined functional food differently according to their own understanding and judgement which leads to different law enforcements related to functional foods in each counties. In addition, functional foods are generally understood as a concept rather than as a term. This concept, that was first introduced by Japanese scientists in 1984, explain the type of foods that are expected to give health benefits either by enhancement of physical and mental well-being and/or reduction of disease risk beyond basic nutritional requirements. These scientists investigate the connection between 4 components which are diet, sensory satisfaction,

fortification and modulation in the physiological systems (Siro et al. , 2008). Their interest on functional foods has led to major development of functional food in Japan which in turn lead to increasing awareness for the importance of such food products not only among the Japanese but in places like United States and Europe as well as in Asia-Pacific countries including Malaysia (Amna et al, 2016).

As the year progress, more and more Malaysian are familiar with functional foods. Functional foods are introduced and marketed into Malaysian food industry to cater Malaysian needs on balanced diet and healthy food habit. Functional foods are developed and promoted in Malaysia as an effort to change Malaysian bad eating habits which indirectly leads to negative outcomes in overall health status (Amna et al, 2016). However, despite various method taken by government to promote functional foods, Malaysia population is still lacking in knowledge and awareness on functional foods which indirectly affect their attitude and practices. Therefore, this study aimed to analyse and evaluate the level of knowledge, attitude and practices of functional foods among Malaysia population specifically among university students. Most university students, being young consumer, do not pay much attention to the type of food and beverages they consumed (Afina & Science, 2018). Due to wide ranges of functional foods available in the market, this study will focus only on selected functional foods that are easy to be access by university students that live in hostel.

Literature Review

Definition of Functional Foods

In general, there is no unitary accepted definition of functional foods due to its broad and unspecific meaning. These food categories have as many definitions as the number of authors referring to it and these go from simple definition like “ foods that provide physiological and health benefits beyond basic nourishments” to a more detail and complex definitions such as “ foods that have been modified to promote physiological roles beyond basic nourishments but have similar appearance with conventional foods and are intended to be taken as part of a normal diet” (Roberfroid, 2000). Few authors explained that functional foods are any foods marketed with appropriate positioning (Roberfroid, 2000) while others argued that foods can only be functional if they have undergo the process of fortification, enrichment or enhancement of any food components which have beneficial health effect beyond basic nutrition. The American Dietetic Association clarified that any whole, enhanced, enriched or fortified foods are functional if these foods give beneficial health effect beyond the provision of basic nutrients when they were consumed as part of regular diet. British Food Journal (2008) stated that majority of the detailed definition of functional foods listed by various authors have four important principles or concepts that can be identified which are health benefits, the nature of the food, level of function and pattern of consumptions.

The health benefits of functional foods appear to be the primary concept in most definition. Specifically, the health benefits are classified into enhancement of target functions and reduction of specific diseases risks.

Nature of the food stated food is considered to be functional when they have similar appearance with those of conventional foods although they have been fortified, enriched or added with additional ingredients. Likewise, foods in which its allergens or harmful components have been removed should look like conventional foods. Next, level of function explained the capabilities of the foods to provide benefits beyond basic nutritional functions. Lastly, consumption pattern stated that food classified as functional must be part of ordinary diet or ordinary consumption pattern in relation to the geographic and/or cultural context. This explained why some foods are considered as functional in certain countries and not in the other countries. Health Canada (2006), Jansen & Krijger (2003) and Diplock et al (1999) are among the authors or regulation that give definition based on these four principle. They describe functional food as foodstuff that is conventional foods itself or appear mostly like the conventional food, is intended to be consumed as part of regular diet not in the form of pills or capsules and were demonstrated to provide beneficial effect on one or more target functions within the human body system above basic nutrition. Although the term functional foods are always used interchangeably with the term " nutraceutical", these two food categories are different despite their overlapping functions or physiological effects on health in some aspects. Roberfroid defined nutraceutical as " any products produced from convention foods but sold in the form of powders, pills and other medicinal forms and are not generally associated with food. They were demonstrated to provide physiological benefits or protection against specific chronic diseases"

Development and Market of Functional Foods

Functional food is often regarded as new term that begin to emerge in the field of nutrition. However, India was among the first to describe the concept of functional foods in their ancient texts of Vedic while the Chinese mentioned it in their traditional medicine practices (Henry, 2010). On the other hand, Roberfroid (1999) suggested Japan as the first country to mention the term functional food around early 1980. Japan was also considered as the pioneer in the researches and developments activities related to functional foods. Japanese government launched and funded many large-scales researches programmes which in turn lead to the establishment of a category of foods with potential to enhance health as an effort to lessen escalating health care costs. This food category is called the concept of foods for specified health use (FOSHU) and are intended to improve people's health.

According to Japanese Ministry of Health and Welfare, FOSHU can be understood as foods that contain relevant components which are expected to give specific health effect. Besides, FOSHU are also described as foods in which its effects of addition of new components or removal of any of its constituents have been scientifically evaluated. These foods were allowed to make specific health claims which consumer may expected from their consumption provided that these foods abide by two conditions. Firstly, FOSHU products are required to give evidences that their final food products are likely to give health effects when consumed as part of normal diet and not the isolated individual component(s) of the food. Secondly, food classified as FOSHU must be in the form of ordinary foods and not in the

form of pills or capsules like those food called as dietary supplements. The initiative taken by Japanese government has make Japan as the leading market for functional food in the earlier years of functional food productions.

At the same time, the awareness was spread into Europe and United States which also have their own experts in food industry. These three countries become the leading countries in the market of functional food over the years. Sloan (2000) suggested that United States has the largest market for functional food products followed by Europe and Japan. The functional food products market in these three counties contribute more than 90% of the total sales around the world (Benkouider, 2005). Countries like Germany, Spain and South Korea become the later countries that follow the foot step of these leading countries (Lau, 2012). Countries in Asia-specific also begin to focus their attention on the functional food products industry. Functional food's popularity in Malaysia, Indonesia, Thailand and Philipine is gaining its popularity since people in this country begin to realise the need of healthy lifestyle and balanced diet. The production of this food category began to grow together with the increasing awareness among the population in the stated countries. The unclear definition and different regulation in various countries make it difficult to quantify each functional foods to estimate the market value of these food products.

In terms of development of functional food products, foods that were fortified or enriched with vitamins and/or minerals such as vitamin C and/or calcium were among the first production of functional foods (Sloan, 2000). As the year progress, functional foods were fortified with various non-nutritive components such as phytosterol and soluble fiber. Nowadays, food industry

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shifted their focus in developing food products that are able to provide multiple health benefits in single food products.