The health-promoting effects of plant-derived functional food ingredients

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The 3rd International Conference on Nutraceutical and Cosmetic Sciences (speech, symposium)

2014

Abstract

Japan is one of the largest metabolic syndrome and cosmetic products markets in the world, markets worth about 1,600 billion yen and 2,000 billion yen in Japan, respectively. We have produced functional food ingredients, flaxseeds, flaxseed extracts and phyto-derived ceramides, for these markets. Metabolic syndrome, including obesity, is a major risk factor for various diseases. The U.S. Food and Drug Administration promoted the use of health supplements containing omega-3-fatty acids that reduced the risk of heart diseases. Likewise, the Japanese Ministry of Health, Labor and Welfare promoted the use of omega-3-fatty acids intake. Here, we discuss the use of flaxseeds, a potentially useful dietary source of omega-3-fatty acids. Flaxseeds are consumed daily in Canada, Europe and USA, and have been the focus of interest because of its omega-3-fatty acid content as well as dietary fiber and lignan content making it potentially beneficial for the prevention of lifestyle-related diseases. We also present the underlying mechanism for the beneficial effects of these functional foods, especially nutrition in flaxseeds and phyto-derived ceramides, and the results of human clinical trial.