

Invited Speaker 4 (IS4)

Nutrients, Supplements Safety and Toxicity

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Dr. Edmund Li is an Associate Professor of Nutritional Science at the University of Hong Kong. He obtained his BSc Food Science, MSc and PhD in nutrition at the University of Toronto.

He was Assistant Professor, Department of Nutritional Sciences, University of Toronto (1986-1992) and joined the Department of Zoology, University of Hong Kong in 1993 and held the position as Head of department between 2003-2007.

Dr. Li is an active member of the Hong Kong Nutrition Association, the Canadian Society for Nutritional Sciences and the American Society for Nutrition. He also serves as member in Hong Kong government consultative bodies and as advisor/consultant to local and international food and beverage manufacturers.

Dr. Li's main research interest is to examine the molecular targets of dietary bioactive components. Through supplementing extract of green tea or *Momordica charantia* (bitter melon) to rat during gestation and lactation, he examines the potential of altering disease risk in offspring through developmental (fetal) programming.

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Obtaining adequate amount of essential nutrients at different stages of life is critical to normal development and health maintenance. The feeling of inadequacy, however, is pervasive even in affluent societies. This sentiment has spawned the exponential use of dietary supplements (including nutrients, nutraceuticals and herbal products) worldwide. Such consumer behaviour perhaps precipitates from the views that science has not fully unveiled needs of the human body and that if something is good, more are better. When it comes to inadequate intake of essential nutrient(s), the positive benefits of targeted supplementation are well documented. However, there are upper tolerable levels for essential nutrients and beyond that toxicity might occur. By current definitions, most supplements are not essential but do carry significant physiological impacts on body functions. As they are not drugs, they can be bought over-the-counter, are often used without supervision by healthcare providers and generally regarded as safe by the lay-public. The safety concerns of supplements centre on overdose/toxicity, interactions as well as the presence of contaminants. This presentation will review the possible link between omega 3 fatty acids and prostate cancer, hepatotoxicity of herbal products, adulteration of drugs in dieting products as well as possible epigenetic effects of maternal multivitamin overdose as these issues could have significant public health implications.