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EFFECTS OF FISH CONSUMPTION ON CARDIOVASCULAR RISK FACTORS: AN EXPERIMENTAL STUDY FROM HEALTHY INDIVIDUALS

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Cardiovascular disease (CVD), is defined collectively as coronary heart disease (CHD), stroke and other vascular disease including peripheral arterial disease (PAD) and renovascular disease, which is a leading cause of global death and disability. Increasing intake of omega-3 (n-3) polyunsaturated fatty acids is recommended to confer benefits for the risk reduction of cardiovascular disease (CVD). It is unknown, whether the consumption of cooked and fried marine fish, which are rich in omega-3 polyunsaturated fatty acids (PUFAs), is associated with CVD prevention. This randomised controlled study investigated the associations of fish consumption (employing cooking methods of frying and currying) on CVD risk factors within a group of adult population. An experiment was used to investigate the effect of omega-3 fatty acids present in fish on cardiovascular risk profiles in a randomly selected healthy individuals (n=74), (mean age 23 y, BMI 24.5 kg/m²). In the experiment, subjects were fed with fish prepared either as a curry containing coconut cream or fried in coconut oil (65±05 g per day for 6 months). Lipid parameters at the start and end of the experiment were measured by automatic biochemical analysis. Body mass index and blood pressure were monitored for 6 months. A pre-tested structured questionnaire was used to collect data regarding subjects' history, dietary plan, fish consumption and socio-demographic characteristics. Fish consumption shown favorable and significant affects on the concentrations of total cholesterol (TC), triglyceride (TG) and very

low-density lipoprotein cholesterol (VLDL(p<001) and TC:HDL ratio and there was no significant effect on low-density lipoprotein cholesterol (LDL) and non-high-density lipoprotein (non-HDL cholesterol (HDL)). However, LDL increased more in curried fish eaters than in fried fish eaters. Conversely, concentrations of HDL and lipid indices such as the total cholesterol/HDL, LDL/HDL, atherogenic coefficient and atherogenic index of plasma were higher in fried fish eaters than in curried fish eaters. No significant change in hs-CRP between both pre and post intervention. The results of the study indicated that fish cooked in coconut cream and fried fish in coconut oil consumption increased the TC, TG and VLDL. The beneficial effect of fish intake on CVD risk is likely to be mediated through the inter play of a range of nutrients in coconut oil.

Biography

Chandravathany Devadason submitted her PhD thesis in Food Nutrition and Health to Wayamba University of Sri Lanka and completed her double Master studies MSc and MPhil, UK in Fish Pathology and Microbiology respectively. She is working as Senior Lecturer at Department of Zoology, Eastern University, Sri Lanka and served as Head and Dean of the Faculty. She have 27 years of academic experience and published many research papers in international journals and presented papers in many international conferences.

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