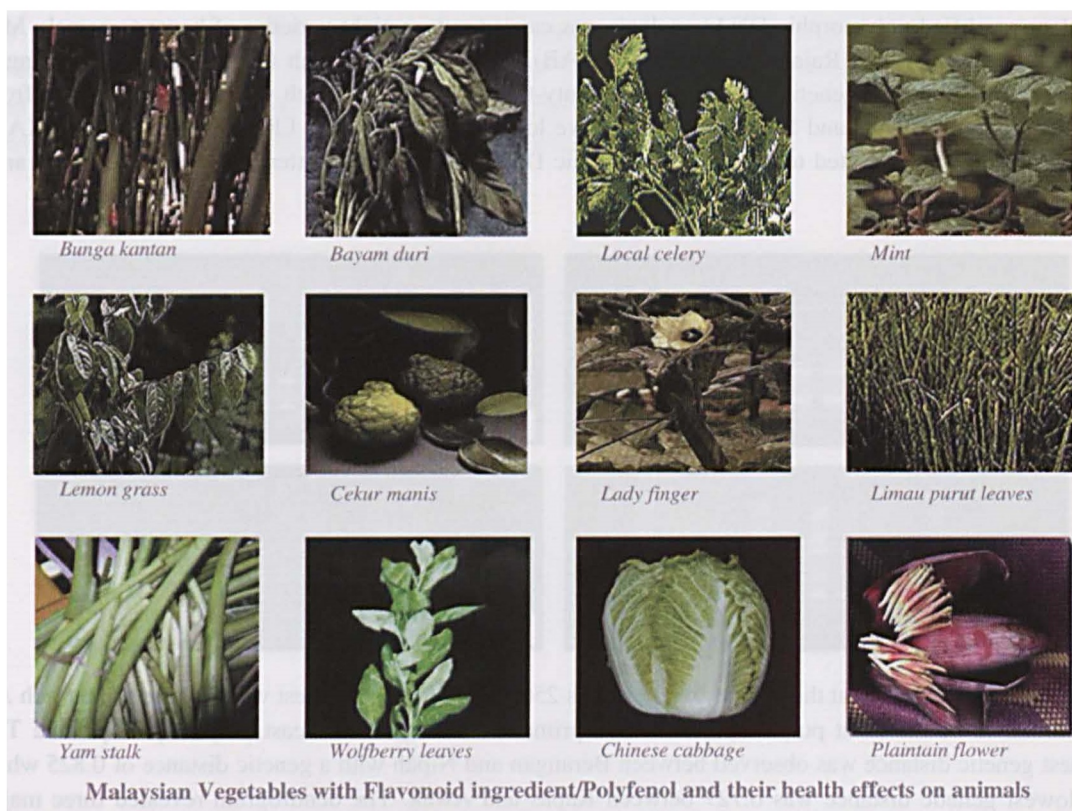


Health Benefits of Malaysian Edible Plants

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The bioactivities of various natural antioxidants from tropical Herbs were studied. Their bioactivities include anti-infective (antimicrobial, anti fungal; insecticidal); cardiovascular (hypocholesterolaemic, hypoglycaemic and blood vessel relaxation, LDL oxidation and receptor upregulation), cytotoxic and antitumour effects were studied.



Most of the Tropical Edible plants extracts with high antioxidative polyphenols content inhibited blood LDL oxidation. The highest antioxidative activity was from *betel leaf* (94%), followed by *cashew shoots*, *mint leaves*, *rattan shoots* and *palm frond* (6%). Inhibition of TBARS formation basically followed the trend of conjugated dienes formation. Four of the plant extracts (*mints*, *semambu*, *cashew* and *noni*) significantly upregulate the LDL receptor above than control by 49% to 67%, *mints* being the highest followed by the other three. *Noni* and *betel leaf* exhibited extremely contrasting results with regard to the inhibition of LDL oxidation and the upregulation of LDL receptor, while *Japanese mints*, *cashew* and *semambu* had similar activities in both assays. The present results suggest that the upregulation of LDL receptor was not significantly correlated to inhibition of LDL oxidation, hence may be influenced by other factors. Oxidation of Low-density lipoprotein LDL is implicated in the development of atherosclerosis and dietary antioxidants may provide useful therapy in prevention of LDL oxidation and associated cardiovascular diseases.

Some of the Tropical Edible plants extracts exhibited more than 50 % relaxing effect on aortic ring preparations. Only two extracts (*P. betle* and *C. citrates*) showed more than 50% relaxing effect on mesenteric artery preparations. The relaxing effect on the aortic ring preparations were mainly endothelium-dependent, and mediated by nitric oxide (NO). The relaxing effects in the mesenteric artery preparations showed lower effects of NO and prostanoids but high effects of endothelium-dependent hyperpolarizing factors (EDRFs). With seven out of nine plant extracts showing a strong vasorelaxing effect and a high phenolic content, this study demonstrated a positive association between diets rich in vegetables and reduced risk for several chronic diseases such as hypertension, diabetes, atherosclerosis and coronary artery disease. Commonly, patients with these diseases show decreased endothelium-dependent vasodilative capacity and responses. It is possible that the protective effects of the vegetables come from their abilities to protect and/or improve the endothelial functions. Certain polyphenols have very strong antiinfective properties.

Reader Enquiry

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