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The effect of mixed fruit and vegetable concentrates on biomarkers of cardiovascular disease: a review of the clinical evidence

Amin Esfahani^{1,2}, Jennifer Truan¹, Korbua Srichaikul^{1,2} and Cyril WC Kendall^{1,2}

¹ Department of Nutritional Sciences, University of Toronto, Toronto, ON, Canada

² Clinical Nutrition & Risk Factor Modification Centre, St. Michael's Hospital, Toronto, ON, Canada

ABSTRACT

Increased intake of fruit and vegetable (FV) has been associated with a reduced risk of chronic diseases, including cardiovascular disease (CVD). However, public health campaigns to increase FV intake have had limited success. A variety of mixed FV concentrates are available in the marketplace which may help certain individuals to achieve FV intake recommendations. However, the possible CVD benefits of FV concentrates have not been systematically reviewed. Our purpose, therefore, was to review the clinical trials that have studied the effects of these concentrates on CVD risk factors. A systematic search of EMBASE and MEDLINE databases identified 12 randomized, controlled clinical trials of 2 weeks duration or longer, which reported on at least one CVD risk factor. These studies assessed markers of oxidative stress (e.g. protein carbonyls, interleukin-6), endothelial function and homocysteine. Daily consumption of FV concentrates significantly increased serum concentrations of antioxidant vitamins in 5 of 6 studies and significantly improved at least one marker (oxidative stress, endothelial function, homocysteine) of CVD risk in 10 of 12 studies. While longer term studies are required, these data indicate that FV concentrates may be of benefit in terms of improving antioxidant vitamin status, decreasing oxidative stress and reducing certain risk factors for CVD. (The study is not funded)

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