Phytoneutrient Intakes by Adults Meeting Fruit and Vegetable Recommendations versus Adults Not Meeting Recommendations

Mary M. Murphy, Lea L. Barry, Judith Spurgeon-Douglas, Xiaoxi Bo, Rochelle Chevolot, Keith Randel, Debra Herman

1 Department of Pharmacology, University of Washington, Seattle, WA
2 Wake Forest School of Medicine, Wake Forest University, Winston-Salem, NC
3 National Health Institute, Bethesda, MD
4 Department of Community Health Sciences, USC School of Public Health, Los Angeles, CA

INTRODUCTION

Fruit and vegetables have been associated with a decreased risk for chronic diseases including cardiovascular disease, cancer, and diabetes (Gleeson et al., 2004; Flegal and Mokdad 2001). Fruits and vegetables are important sources of key nutrients, such as potassium, dietary fiber, folate, and vitamin C, and A. Additionally, they contain naturally occurring compounds referred to as phytoneutrients or phytochemicals, which may help maintain better health beyond basic nutrition. However, intake of fruits and vegetables in the United States fall short of recommendations for many adults, and consequently the intake of the vitamins, minerals, and phytochemicals provided by these foods is likely suboptimal. Estimates of phytochemical intake suggest that adults consuming "beta-rich" diet will benefit from eating fruits and vegetables versus meats by adults who do not consume recommended quantities of these foods will provide valuable information on the distribution of phytochemical intake in the United States.

OBJECTIVE

To estimate intakes of 14 select phytochemicals by adults who do not meet recommended intakes of fruits and vegetables ("non-meeters") versus adults who do not meet recommended intakes of fruits and vegetables ("non-meeters"). The 14 phytochemicals include all-trans, eicohandols, anthocyanins, flavonols, flavones, flavonols, Isoflavones, (3-galloylgallate, ellagic acid, lignans, sulforaphane, p-coumaric acid, quercetin, and rutin. An additional objective was to identify the ranked contributions of total dietary phytochemical intakes by foods in "meeters" and "non-meeters."