Title Phytochemicals in Health and Disease

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Abstract

Background. Phytochemicals are a diverse group of compounds found in plant foods. Among the phytochemicals of greatest interest to researchers are food phenolics. Food phenolics possess both antioxidant and free radical scavenging abilities, and thus may play an important role in reducing cardiovascular disease risk. Food phenolics (commonly called polyphenolics) are widely distributed in a broad range of plant foods. Most research interest has been focused on one class of polyphenolics: the flavonoids. Flavonoids in wine and tea have been most extensively studied for their potential health benefits. However, the antioxidant capacity of flavonoids from a variety of other foods has also been reported, including grape juice, beer, dry beans, chocolate, and several Asian fruits and vegetables.

Results and Discussion. Polyphenols influence the sensory and nutritional qualities of plant foods. The astringency and bitterness of foods and beverages is largely due to their polyphenolic content. Considerable variation is found in measuring the polyphenolic content of foods. The polyphenolic content of foods seems to be primarily influenced by genetics, but numerous other factors including degree of ripeness, climate, storage and processing can also influence phenolic content. Quantifying polyphenolics is further complicated by the fact that researchers use different analytical techniques to measure polyphenolic content.

Conclusions. Food phenolics are a diverse group of compounds that are not easily studied. However, they are found in significant quantities in the human diet. Food phenolics have been shown to be potent antioxidants that may be able to reduce cardiovascular disease risk. Additional information on the polyphenolic content of food, their metabolism and mechanisms of action is needed before the relative importance of polyphenols in reducing cardiovascular disease can be fully appreciated