Title Importance of the phytochemical content of fruits and vegetables to human health

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Abstract

Purpose of review: Numerous studies have identified a significant inverse association between fruit and vegetable consumption and the incidence of many diseases, including cardiovascular diseases, cancer, diabetes, osteoporosis and vision diseases. Phytochemicals contained in plant foods play important roles in disease prevention. This article reviews the importance of certain major phytochemicals, their possible mechanisms of action and the effects of certain physical treatments on the phytochemical content of fruits and vegetables.

Recent findings: Every year, numerous scientific publications, science books and even articles and advertisements for the general public appear on the positive effects of a specific phytochemical or combination of phytochemicals. However, published books, articles, sayings and rumours about undemonstrated effects of fruits and vegetables are still widely available. It is important to distinguish between these kinds of information and to continue to dismiss or demonstrate these effects. The present article is based only on scientific demonstrations of the effects of phytochemicals on human or animal health.

Directions for future research: An increasing number of convincing studies show the benefits of the phytochemicals in fruits and vegetables. It is very important to understand their functions and to promote increased fruit and vegetable intake. Since a wide variety of horticultural produce contains high concentrations of several specific classes of phytochemicals, maintaining a diet that contains a variety of fruits and vegetables will help the world's population achieve the combined benefits of the phytochemicals. There is still a significant need for further investigation into their potential benefits and mechanisms of action, as well as for development of the best commercial-scale treatments for postharvest produce to improve phytochemical content.