

Advantage of Antioxidants

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EDITORIAL

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In the modern era where almost everything is instantaneous, the incidence of metabolic diseases is increasing. National Health and Nutrition Survey (NHANES) in America, stated that the prevalence of Metabolic Syndrome had reached 22% of the world population by the year of 2000, and was predicted to increase.¹ These metabolic changes has triggered various kinds of organs impairment due to the increase of free radical and oxidative stress. Hence, the consumption of antioxidant is vital to reduce the amount of free radicals in human body.

Antioxidant is a substance that can react and stabilize free radicals by combining two free electrons, consequently free radicals could not interact with cells. Antioxidants are found in a lot of fruits and vegetables.² Human body actually produces antioxidant compounds; for instance superoxide dismutase (SOD), catalase (CAT), and glutathione reductase (GR). In metabolic disorders, the amount of these antioxidants are not able to compensate the amount of free radicals, therefore supplementary antioxidants from food are needed.³

Antioxidants from vegetables, such as carotenoids, vitamins, phenols, flavonoids, and glutathione, has been widely researched and proven able to prevent free radical oxidations. Vitamins, such as vitamin C, vitamin E, and carotenoids (vitamin A) are known as potential antioxidants.⁴ In nature, vitamin A are found in three forms : retinol (vitamin A 1), 3-4 didehydroretinol (vitamin A 2), and 3-hydroxyretinol (vitamin A 3). Foods rich in vitamin A are liver, carrot, milk, egg yolk, and cheese. Vitamin C or ascorbic acid can be found in fruits, vegetables, meat, poultry, and fish. Vitamin E or alpha-tocopherol can be found in nuts, wheats, corn, mango, and broccoli.⁵

Consumption of foods rich in antioxidants increase the capacity of antioxidants in human body. Recent research showed that antioxidant can inhibit tumor growth and inflammation, enhance immune system, manage energy, and delay aging process. Currently, aging is considered as a preventable disease because its process results from the buildup of free radicals which shortens the life of cells.⁶

Metabolic diseases affect human productivity and its therapy consume a lot of resources and time. It can be a socio-economical burden to, not only an individual, but also a country. Hence, the increase in incidence of metabolic diseases should be prevented by utilizing the presence of antioxidants in the food around us.

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