

## Phytochemicals and Obesity

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### Abstract

The incidence of obesity is increasing all around the world and it becomes one of the principal public health burdens with huge social and economic costs. Obesity increased the risk of mortality and also it decreased life quality by causing to sleep apnea, respiratory problems, osteoarthritis, and infertility. Phytochemicals can be found in many foods and medicinal plants and it has strong antioxidant and free radical scavenging properties. They play an important role in the prevention and treatment of chronic diseases such as cancers, diabetes, cardiovascular and neurodegenerative diseases and also obesity. This review aims to provide a brief knowledge of phytochemicals and its role in obesity.

**Keywords:** Phytochemicals, Obesity; Natural antioxidants

### Editorial

Overweight and obesity are described as abnormal or excessive fat accumulation. It is a major risk factor for a lot of chronic diseases such as diabetes, cardiovascular diseases, and cancers. Previously it considered a problem only in high-income countries, but now it dramatically on the rise in low- and middle-income countries, especially in urban settings [1]. Diet low in fruits, fibers, vegetables, and whole grains lead to increased gain in weight [2]. Phytochemicals which are active components of plants, comprising of phenolic acids, phytates, flavonoids, glucosinolates, and phytoestrogens have anti-inflammatory, anti-diabetic and antiobesity properties [3-5]. It was shown that phytochemical index which is the ratio of the energy obtained from diet rich in phytochemicals to the total energy consumed every day is inversely associated with adiposity and oxidative stress [2].

Natural compounds, such as epigallocatechin gallate, genistein, resveratrol, capsaicin, and procyanidins inhibit adipogenesis [6]. Various other plant-derived products are reported in controlling obesity. Notable among these are fruits like watermelon, avocado, apples, blueberries, cucumbers, oranges, quinoa, grapefruit, pears, vegetables like chillies and peppers, curry leaves, cabbage, garlic, ginger, green leafy vegetables like spinach, beans, tomatoes, broccoli, spring vegetable like asparagus, turmeric, cardamom, cinnamon and cloves. Some of the oils used in cooking also help to fight obesity such as olive oil. Curcumin, the active compound of turmeric decreases low-density lipoprotein (LDL) or the bad cholesterol and at the same time controls hypertension [7]. Capsaicin found in chilies and capsicum increased the metabolism and burn more calories, thereby controls obesity. Allicin present in garlic reduces cholesterol and unhealthy fats

[8]. Lycopene, the active constituent in tomato is famous for its anti-oxidant and anti-carcinogenic properties and it also helps to lose weight [9]. Green tea, obtained from the leaves of *Camellia sinensis* possesses a wide variety of disease-fighting properties and may also aid in obesity control as it has hypocholesterolemic, hypoglycemic and antidiabetic activities [10].

## Conclusion

In conclusion, phytochemicals have strong obesogenic and anti-inflammatory properties. Studies show that these substances may be useful in the prevention and treatment of obesity. Thus consuming of such molecules through daily diet may prove to be of enormous importance in fighting obesity and ultimately the occurrence of diseases like cancers.

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