Common Herbal Plants and Their Role in Control of Obesity

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Abstract

Obesity is quite common around the globe and linked with the increased prevalence of various other diseases including: immune dysfunction, diabetes, depression, cancer and cardiovascular disorders. Obesity is induced by the diet is usually due to disproportionate intake of calorie enriched diet, lack of physical activity and reduced energy consumption. Worldwide, it was estimated that an average of 603.7 million adults and 107.7 million children were found to be obese in 2015. It was also observed that the prevalence of obesity is quite greater in females than males. The incidence rate of obesity was 12.0% among adults and 5% among children. In 2015, approximately 4 million deaths were reported around the world due to increased BMI.

The current review is aimed to study common herbal plants which have proven anti-obesity effect and could be used in the routine diet to reduce weight and to improve the quality of life. The databases used for this review were included Google Scholar, PubMed, Scopus and Medline. There are many common herbal plants and spices which are used in daily routine that could be helpful in reducing weight.

Black Chinese tea, Nigella Sativa, Green Tea and Camellia synensis has exhibited promising anti-obesity activity. To reduce the prevalence of obesity and to improve the quality of life better strategies should be considered. Physicians and other health care professionals with pharmacological interventions should recommend change in daily routine life to patients for better outcomes.

Obesity is quite common around the globe and linked with the increased prevalence of various other diseases including: immune dysfunction, diabetes, depression, cancer and cardiovascular disorders. So, right approach should be taken into account to loss the weight and other resultant abnormalities (Vanamala et al., 2012).Worldwide, it was estimated that an average of 603.7 million adults and 107.7 million children were found to be obese in 2015.

It was also observed that the prevalence of obesity is quite greater in females than males. Obesity is also associated with polycystic ovary syndrome which is characterized by ovarian dysfunction, hirsutism and acne (Mahmood et al., 2011). The incidence rate of obesity was 12.0% among adults and 5% among children. In 2015, approximately 4 million deaths were reported around the world due to increased BMI.

Further, increased BMI was resulted to 120 million disability-adjusted life-years. As link to the BMI, about 39% of the mortalities and 37% of the disability-adjusted life-years were found in people having BMI <30 (Collaborators, 2017). Overall, global economic burden of the obesity was predicted to be 2 trillion US dollars in 2014 (Tremmel et al., 2017).

The major reason behind the increased incidence of obesity is probably surplus ease to access and affordability of energy-dense foods. The marketing of such food products and utilization may the key cause of weight gain (Swinburn et al., 2011).Obesity is quite common in both developed and developing countries. Pakistan is an emerging country and ranked on 9th highest position regarding obesity monetary burden (Ahmad et al., 2015).

Pakistan is facing many challenges like lack of health resources, malnutrition, trend shifting towards the fast food, occurrence of non-communicable including obesity and economic burden. Due to lack of the regulatory control, the fast food industry is expanded abruptly in Pakistan which resulted into the weight gain and its comorbidities (Sajjad and Qureshi, 2018). Better strategies should be considered to reduce the prevalence of obesity and improve the quality of life (Kanwal et al., 2015; Tanveer et al., 2019). Physicians and other health care professionals with

Pharmacological interventions should recommend change in daily routine life to patients for better outcomes (Howard, 1981). Obesity is induced by the diet is usually due to disproportionate intake of calorie enriched diet, lack of physical activity and reduced energy consumption. Due to imbalance between the energy intake and utilization either fat cells are increased in size or number (He et al., 2009). Complementary and alternative medicine (CAM) including change in dietary habits and herbal supplements are proven to be effective in the treatment of weight loss (Barnes et al., 2002).

In 2002, World Health Organization (WHO) has recommended the Asian countries to reduce the BMI cut-off values (Aziz and Sohail, 2016). Many therapeutically useful compounds are being isolated from herbs and used in treatment of various ailments (Tanveer et al., 2019).

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reducing weight. Black Chinese tea, Nigella sativa, Green Tea and Camellia synensishas exhibited promising anti-obesity activity. It is recommended that dose of the medicinal herbs should be determined for effective treatment and possible side effects (Hasani-Ranjbar et al., 2013).In an investigation, 53 medicinal plants were studied for their possible anti-obesity effects. Black tea, Glycyrrhizaglabra, licorice, Saturejakhuzestanica, Fenugreek, cherry, garlic powder (Allicor) and rhubarb stalk has demonstrated a significant reduction in total cholesterol and LDL cholesterol levels(Hasani-Ranjbar et al., 2010).

A research was conducted on processed tomato vinegar beverage TVB to evaluate anti-obesity and anti-insulin effects and outcomes has showed the reduction in insulin resistance and visceral obesity (Seo et al., 2014).Tomatoes not only helpful in weight drop but also reduce the risk for the chronic inflammatory diseases (Hazewindus et al., 2014).

The current review is aimed to study common herbal plants which have proven anti- obesity effect and could be used in the routine diet to reduce weight and to improve the quality of life. The databases used for this review were included Google Scholar.

Role of herbal plant in controlling obesity Orange peel Orange peel or bitter orange peel (Citrus aurantium) belongs to family Rutaceae. Many valuable phytochemicals have been isolated, named: synephrine, hordenine, N-methyl tyramine, octopamine, flavonoids, volatile oil and Vitamin C. The isolated compound namedSynephrinehas significant pharmacological activities such as bronchial muscle relaxation and constrictions of vessels. The fruit extracts of the orange peel is widely used to cure multiple diseases such as infections, obesity and cancer (Suryawanshi, 2011; Arshad et al., 2019). In a research, orange peel has been evaluated for the anti-obesity effects.

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