CHAPTER 5

THERAPEUTIC VALUES OF STEVIA REBAUDIANA

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Introduction

Stevia is a trademark sweetener that does not contribute calories and is 100 times sweeter than sugar. It has been translated into a guide for calorie – perceivers. Stevia is also termed as stevia rebaudina, this plant(fig 1) is a member of the chrysanthemum family, the subgroup of the asteraceae family It contain many vitamins and minerals , especially vitamin A. C, iron, riboflavin, N, K, P, Mg and phytochemicals etc. This phytochemical which regular consumption may provide beneficial affects again oxidative stress, there by promoting overall health and wellness.

The leaf of plant stevia is exploited largely for extraction of sweetener and as the flavour in the food and beverage industry. Widely popular natural sweetener steviol obtained from leaves of stevia is readily available in market around the global. Main benefits of stevia are they protect against atherosclerosis, heart attack and stroke, prevent cancer, alleviate blood pressure, boost bone health and managing diabetes and they beneficial in weight loss.

A large eminent as nectar leaf can be used as a piece of tea, refreshments and diverse sustenance are as sweetening administrator. Stevia is a trademark sweetener that does not contribute calories and is 100 times sweeter than sugar. It has been translated into a guide for calorie-perceivers. It is mostly used as a trademark sweetener, a central fragment that is removed and removed from that leaf of stevia. It contains three glucose atoms associated with the steviol moiety. It is also called Stevia rebaudiana, it is a plant that is a member of the chrysanthemum family which is a subgroup of the Asteraceae family (ragweed family). The stevia bought from the grocery store and the stevia grown at home is very different from each other. Stevia products which are available in the grocery stores like tuvia and the stevia in like diabetes, obesity and hypertension.

Fig 1. Stevia Plant (Source: https://naturalforce.com)

Chemical Composition

Stevia is chemically composed of protein, fat, carbohydrate, ash and fiber. The sweet leaves of Stevia (Stevia rebaudianaBertoni) have been investigated by many researchers, is used for many years by South America and they call it “Kaa-hee” (Sweet herb). Due to the chemical composition and

sweetening properties stevia is used as an alternative to synthetic sweetener (Marcinek K. et al., 2015).

The composition of dried leaves carbohydrate (66.50), protein (9.63), fat (3.47) dietary fiber (17.2). Milani (2017) was found that stevia is the source of stevioside (5-10%), duloside (0.4-0.7%) and rebaudiana (1-2%). Its leaves in dry form contain alkaloids, flavonoids, lutein, chlorophyll, hydroxyapatite, oligosaccharides, amino acids, free sugars and late segment (El-Nassag, 2011). It contains many vitamins included vitamins A, C and vitamins of B-complex like thiamine and riboflavin.

Stevia contains water-soluble vitamins such as vitamin C and vitamin B complex. In leaves, folic acid was a major compound and after that vitamin C is found in a major concentration. Along with nutrition, it is also used in the health and cosmetic industries due to the effectiveness of its phytochemical content.

Stevia in unprocessed form is highly nutritious having vitamins and minerals included vitamin C, niacin, magnesium, calcium, chromium, zinc, potassium and phosphorus. The stevia leaves contain protein, fibre and at least 100 phytonutrients. Stevia contains minerals included magnesium, calcium, iron and phosphorous. The minerals are beneficial for cardiovascular system, bone formation and porosity against bone and important for bone formation. The minerals present in stevia leaves are beneficial for immune system. Zinc and selenium are the trace minerals present in stevia products. While, many other trace minerals also present in stevia leaves included silicon, chromium, cobalt and manganese which are used in enzymatic processes. These provide function of excretory system, utilization of oxygen, physiological assembly and disassembly of energy safely.

Health Benefits of Stevia Leaves

Role in Cancer

The harmful quality has been investigated for stevia for a long time, until now no malignant tumors, geno toxicity or different harmful effects have been found. Akihisa, T. et. al., (2004) stated that different examinations listed the inhibition of stevia removal on tumor changes. Steivoside's, stevia glucosides, isosteviol and steviol have become warmer, have slow down properties, and decrease tumor progression by blocking specific antigens.

Role in diabetics

It exhibits hyperglycemia, antihypertensive, threatening tumors, combating the effects of running and diuretics, and also helping to lose weight. Stevia leaves are generally used to treat diabetes in various parts of the world Megeji N. (2005).

Stevia utilization enormously builds the levels of glucose resilience and low plasma glucose in the grown-up. Aside from hypoglycemic action, stevia diminishes the danger of oxidative pressure. The plant shows a heart tonic movement that helps coordinates heart rate and circulation strain levels. They also found antibacterial, palliative and bacteria-free properties. Stevia exhibits nourishing properties associated with the stomach and exhibits extraordinary effects in removing skin problems such as dermatitis, skin deterioration, and skin irritation (Barba F. J. 2013).

Lowering of blood glucose level

Stevia suppresses plasma glucose levels and raises glucose tolerance better than artificial sweeteners. Stevia also has no calories, which makes it highly beneficial for lowering glucose levels. Sucrose contains calories due to which consumers gain weight after its consumption. Artificial sugars can be replaced with stevia in the sugar-containing products. Stevia is triggered the glucagon response and also reduces blood glucose in people suffering from type 2 diabetes. Glucagon is the hormone that regulates blood glucose levels in the blood. For diabetic patients, the system that produces glucagon is usually faulty (Abdelwahab A. H. 2017).

Other Medicinal Uses

Stevia has drawn the attention of health-conscious fitness lovers all over the planet as a non-caloric sweetener. It is regarded as replacing saccharin worldwide. The major sweet compounds that are isolated from the stevia leaves are several glycoside compounds including steviolbioside, stevioside, dulcoside and rebaudiosides (Samuel P. 2018).

Stevia can reduce the risk of pancreatic cancer by 23%. Intake of stevioside as a supplement can reduce blood pressure. Stevia has also been shown to have anticancer, anti-inflammatory, diuretic and immune modulatory effects. Being a non-carbohydrate sweetener, stevia would not favor the growth of streptococcus mutant's bacteria in the mouth which is attributed to be a causative agent of dental caries and tooth cavities' (Sharangi. A. B.et al., 2016).

It gives the correct amount of calories and there are signs of human prosperity. According to some progressive clinical examinations, Stevia has different therapeutic properties like cell strengthening and antifungal when used as a different maintenance structure.

Conclusion

Stevia is a valuable ingredient to reduce sugars in dairy applications. As a sweetener, it has great potential to be widely used in regulation of body weight (diets) as low-caloric sweetener that due to its low cost is available to most consumers. Moreover, scientists have concluded that Stevia sweeteners are safe for people of all ages. New study data indicate that high-purity stevia extract represents a useful tool in helping to reduce calories and sugar intake. Regarding the weight management challenges, stevia alone cannot solve it, but definitely is one tool in the toolbox of better health. It should be expected that higher awareness of necessity for healthier lifestyle and changing daily habits will lead to launches of new products with stevia on the global market. Moreover, it is expected that use of S. rebaudiana as sweetener should be

extended to almost all the world's countries regarding all discovered aforementioned beneficial health effects.

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