

Health Spine Gourd: The Impact of Vegetarian Diet

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Abstract

Spine gourd is a dioecious perennial cucurbitaceous climbing creeper. It is an Asian native with a large spread in India and Bangladesh. Over thousands of years, it has been utilized not only as a preventive and curative agent for numerous diseases, but also as a vegetable with high nutritional content. Spine gourd is regarded an underappreciated vegetable, despite the existence of some chemicals with higher nutritional value than several commonly consumed vegetables. Furthermore, as a traditional medicinal plant, there is still potential for its phytochemical components, which increases the need for further extensive research to support its other therapeutically responsibilities.

Introduction

The word "Spine Gourd" does not usually relate to a specific plant or fruit. It's possible that you're referring to "Spine Gourd" as a local or regional term for a specific type of gourd or vegetable. The thick skin and fleshy interior of gourds distinguish them. They are available in a variety of shapes, sizes, and colors. Some gourds have spines or prickles on their skin, which may explain the phrase "spine gourd" in some contexts. Spine Gourd fruits are oblong or spindle-shaped, measuring about 4-5 cm in length.

They are covered with numerous little spines or prickles, therefore the common name "spiny gourd." The fruits are green while immature and turn yellowish-orange as they grow. When the fruit is unripe, the flesh is white and crisp, but when fully mature, it becomes soft and red.

The Spine Gourd commonly known as teasel gourd, Adavihagal and Madahagal-Kayi in Kannada and Vahisi in Sanskrit, Kakor, Parora and Golbandra in Hindi, Banzakartoli in Marathi, Kartoli in Bengali, Akakara and Bodakakara in Tamil. It is a perennial climbing vine belonging to the Cucurbitaceae family. It is native to the Indian subcontinent and is widely distributed in tropical and subtropical regions of Asia, including countries like India, Bangladesh, Sri Lanka,



Myanmar etc. Spine Gourd has been cultivated in India for millennia, but it is only recently that it has gained popularity due to its numerous nutritional and health benefits. It is dioecious and perennial in nature, but commercially grown as vines and annuals with simple tendrils and fruits in axils and tuberous roots. It is becoming increasingly popular in the country as a result of its great therapeutic value.

Nutritional Value

Spine Gourd fruits are low in calories and high in fiber. They also include minerals such as calcium, potassium, and iron. Furthermore, the fruit is known for its antioxidant capabilities.

Nutrients	Quantity (per 100g)
Energy (kcal)	288.25
Fat (g)	3.1
Fiber (g)	3.0
Protein (g)	3.1
Carbohydrate (g)	7.7
Iron (mg)	14
Zinc (mg)	134
Sodium (mg)	150
Calcium (mg)	50
Potassium (mg)	830

Source: (Sattya and Mohammad, 2014)

Culinary Uses: Spine Gourd fruits are mostly used in cooking. The tender unripe fruits are used in many Asian cuisines, particularly in India and Bangladesh,

in dishes like as curries, stir-fries, and pickles. The ripe fruits, with their soft and sweet flesh, are eaten fresh or used in sweets and preserves.

Medicinal Uses: Spine Gourd has a long history of traditional medicinal use in Ayurveda and other traditional healing systems. Different parts of the plant, including the fruits, leaves, and roots, are used to treat various ailments. It is believed to have anti-inflammatory, antidiabetic, and antimicrobial properties.

Antioxidant Activity: Spine gourd contains antioxidant substances that can limit the generation of oxygen-derived free radicals and protect cells (Anant *et al.*, 2019). Fruit extracts are diuretic, alexiteric, stomachic, laxative, hepatoprotective, and antivenomic. It is used to treat asthma, leprosy, and excessive salivation (Bawara *et al.*, 2010), as well as to avoid inflammation caused by lizard and snake bites, fever, mental and intestinal diseases, and cardiac problems. Fruits are used to treat pimples and acne on the skin because of these qualities.

Anticancer activity: According to (Anjana *et al.*, 2020), root extracts have several constitutions with anti-cancer properties. Spinasterol-3-o-a-D-glucopyranoside is a significant chemical that inhibits cancer cell growth (Jha *et al.*, 2017).

Allelopathic activity: Spine gourd seed oil is naturally insecticidal. Spraying the extracted oil on cereal grains gives anti-feed effect against cereal-feeding insects (Anjana *et al.*, 2020).

Ayurvedic values: Other than the vegetable, ancient peoples employed spine gourd as a folk medicine. Spine gourd root fluids have anti-diabetic and anti-inflammatory properties, and applying extract of spine gourd leaves to the skull is an effective headache cure. When applied to the entire body, root extracts give a superficial effect for high fever. Oral administration of the leaf paste is used to treat a variety of skin problems such as pimples, acne, and skin softening (Talukdar *et al.*, 2014). Spinach is the most beneficial nutrient vegetable for children, lactating moms, and pregnant women because it strengthens the immune system in the body (Salvi and Katewa, 2015).

Other Uses: Spine Gourd is planted as an ornamental plant due to its lovely leaves and distinct fruit appearance, in addition to its culinary and medicinal benefits. Spiny gourds can be utilized in flower centrepieces and offer aesthetic appeal to gardens.

Health Benefits of Spine Gourd

Insulin Secretion: Spine Gourd has been shown to increase insulin production by pancreatic beta cells. Insulin is a hormone that regulates blood sugar levels by allowing glucose from the bloodstream to enter cells. Spine Gourd extracts has been demonstrated in some trials to increase insulin release from beta cells, potentially contributing to better glucose control.

Digestive Health: Spine Gourd has long been utilized in Ayurveda and traditional medicine to support digestive health. It is thought to aid digestion, increase appetite, and treat constipation.

Weight Management: Spine Gourd can help with weight loss because to its low calorie and high fiber content. It promotes feelings of fullness, suppresses hunger, and promotes healthy digestion.

Immune System Support: Spine Gourd has vitamins and antioxidants that can help boost the immune system. They help the body's defence against infections and improve immunological function generally.

Anti-inflammatory Effects: Chronic inflammation is linked to insulin resistance and poor glucose metabolism, both of which play important roles in the development of type 2 diabetes. According to certain research, Spine Gourd has anti-inflammatory qualities. These qualities may assist to reduce inflammation and maybe enhance insulin sensitivity.

Slows ageing: Anti-aging components found in spiny gourd include antioxidants, beta-carotene, alpha-carotene, lutein and zeaxanthins. Their ingestion inhibits the onset of aging.

Conclusion

Plants were mostly used by ancient humans and our ancestors to recuperate from ailments. However, the recent tendency of avoiding natural sources of sickness rather than artificial sources is discouraging. Because ongoing reports of antibiotic resistance and synthetic medication adverse effects all

throughout the world indicate a worldwide health emergency. Spine gourd contains a large number of secondary metabolites. Furthermore, the use of Spine gourd is beneficial to the environment and has less adverse effects than other synthetic medications. It will also be safer and less expensive than man-made medicine formulation.

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