

THERAPEUTIC AND NUTRITIONAL APPLICATIONS OF SOLANUM MELONGENA

T. Ganesh Kumar¹ and K. Sreenivas Reddy²

¹Head, Department of Chemistry, CSSR&SRRM Degree&PG College, Kamalapuram, YSR Kadapa District, A.P

²Faculty, Dept. of Computer Science & Applications, CSSR&SRRM Degree & PG College, Kamalapuram, YSR Kadapa District, A.P

e-mail: ganeshcssr@gmail.com & sreenivas.kalluru@gmail.com

Abstract- The therapeutic efficiency of herbal medicines in India leads to the evolution of Ayurveda. Apart from Ayurveda, the traditional system of medicine, throughout the length and breadth of the country used many common plants/plant products as household remedies. *Solanum melongena* which is known as egg plant is an economic flowering plant belonging to the family Solanaceae. The family contains 75 genera and over 2000 species. Members are mostly herbaceous plants, and the fruit is berry and seeds have large endosperm and are grown mainly for food and medicinal purposes. It is widely distributed in India for its fruit. Various parts of the plant are useful in the treatment of inflammatory conditions, cardiac debility, neuralgias, ulcer of nose, cholera, bronchitis and asthma. Besides, having many traditional uses, *Solanum melongena* is reported to exhibit many important pharmacological actions. This article will focus on the therapeutic and nutritional benefits of the traditional purple eggplant.

Index terms: Herbal medicine, egg plant, pharmacological action, anti-oxidant

I. INTRODUCTION

The eggplant, also known as aubergine, garden egg, guinea squash, melongene, and brinjal, usually has an egg-like shape and a vibrant purple color. It is rich in fiber, low in calories, it provides a range of nutrients, and it features in the Mediterranean diet. Although the dark purple version of eggplants is best known, the shape, size, and color can vary from small and oblong to long and thin, and from shades of purple to white and green.

II. THERAPEUTIC AND NUTRITIONAL APPLICATIONS

Eggplants are rich in fiber and antioxidants. Consuming fruits and vegetables of all kinds has been shown to reduce the risk of many lifestyle-related health conditions. Studies have long suggested that eating plant foods, such as eggplant, can boost overall health and wellbeing.

Laboratory analyses of the phenolic compounds in eggplant show that it contains anthocyanins, a type of flavonoid, and chlorogenic acid, a powerful free-radical scavenger. Anthocyanins and chlorogenic acid function as antioxidants and anti-inflammatory compounds. Studies show that consuming even small quantities of flavonoid-rich foods may benefit human health in various ways.

1) Heart health

The fiber, potassium, vitamin C, vitamin B6, and phytonutrient content in eggplants all support heart health. In addition, eating foods containing certain flavonoids, including anthocyanins, may be associated with a lower risk of mortality from heart disease, according to a review published in the American Journal of Clinical Nutrition (AJCN) in 2008.

In one study, those who consumed more than three servings of fruits and vegetables per week containing anthocyanins had a 34-percent lower risk of heart disease than those who consumed less. In another, an increased

intake of anthocyanins was associated with significantly lower blood pressure.

2) Blood cholesterol

Research has shown that when rabbits with high cholesterol consumed eggplant juice, this led to significantly lower weight and blood cholesterol levels. Chlorogenic acid has been shown to decrease low-density lipid (LDL) levels. It also acts as an antimicrobial, antiviral, and anticarcinogenic agent.

3) Cancer

Polyphenols in eggplant have been shown to have anticancer effects. Anthocyanins and chlorogenic acid protect cells from damage caused by free radicals and, in turn, prevent tumor growth and the invasion and spread of cancer cells. The anticancer action of anthocyanins appears to include preventing new blood vessels from forming in the tumor, reducing inflammation, and blocking the enzymes that help cancer cells to spread.

4) Cognitive function

Findings from animal studies suggest that nasunin, an anthocyanin in the eggplant skin, is a powerful antioxidant that protects brain cell membranes from free radical damage.

It also assists in the transport of nutrients into the cell and moving waste out.

Research has also shown that anthocyanins help prevent neuroinflammation and facilitate blood flow to the brain. This could help improve memory and prevent age-related mental disorders.

5) Liver health

Research has suggested that the antioxidants in eggplant may help protect the liver from certain toxins.

Nutritional content

06) Anemia

Eggplants are considered a great food for the anemics. This is because they contain significant amounts of both iron and copper. These two minerals are equally very important in the production of red blood cells. When they

are deficient, a condition known as iron-deficiency anemia might arise. Without these two minerals, the red blood cells in a person's body will keep decreasing since they are constantly being used up. On the average, red blood cells live for about 120 days.

As an anemic, or one who's willing to prevent anemia, adding eggplant to your diet might do wonders. Although these minerals (iron and copper) are not present in extraordinary amounts, the little to reasonable quantity present might do away with some of these disease symptoms such as fatigue and stress, while increasing your red blood cell count.

7) Cancer

Investigations conducted recently have shown that fruits from the botanical family Solanaceae such as eggplant contain rich amounts of phytochemicals which help protect against the formation of cancer. A research carried out recently (2017), evaluated the effect of eggplant skin on the apoptosis or death of cancer cells. The results found eggplant skin extracts to positively enhance the process of cancer-cell apoptosis. The study went further to suggest how extracts from the skin of this wonderful fruit can be used in the production of stomach cancer drugs.

Most scientific studies have attributed the anti-cancer potential of eggplant to its rich content of antioxidants. Antioxidants such as vitamin C helps boost the immune system by stimulating the production of white blood cells, and fighting foreign invaders. Another important antioxidant found in eggplants is nasunin, which also helps fight cancer and aging. Nasunin does this by limiting the activity of free radicals in our body. This free radicals which are the by-products of cellular metabolism, are responsible for most cancerous growths.

8) Weight loss

Eggplant should be among your weight loss plans if you are looking to get a list of wonderful foods that can help. One – It provides little amount of calories. Two – It contains very small, if not negligible amount of fats or cholesterol. Three – It contains significant amount of fiber. Four- That's enough! I'm stopping here. Eggplant is just perfect for a person looking to shed off some weight. Little amount of calories plus lack of fat is a great advantage. Also, the fiber content keeps one going, as it provides a feeling of satiety. This reduces your chances of eating too much food, as you eat less, and feel entirely full.

9) Aids Digestion

Eggplants are rich in fiber, which is necessary for the proper digestion of food materials and movement of bowel. It adds some bulk to our stool, so that it can pass through the intestinal tract more easily, through stimulating peristaltic action – the contraction of digestive tract muscles that push stool out of the body. During digestion, fiber stimulates the production of digestive juices which improves breakdown and assimilation of foods. Also, eggplant helps promote biliary function, as well as the production of pancreatic juice. In general, this wonderful fruit is considered as a great digestive tonic. Its

consumption can help eliminate your digestion problems, while improving your entire health.

10) Neural tube defects

Eggplants are a rich source of folic acid or folates, which have been associated with neural tube defects. Lack of this vitamin in a prospective mother can predispose her child to neural tube defects such as spina bifida and anencephaly. If you want your child to be free from these dangerous disorders, then having some folates in your body prior to conception is very important. This is because neural tube defects happen in the first month of pregnancy, even before knowing you are pregnant in most cases. And one way to get those folates is through eggplant consumption.

11) Diabetes

There are many scientific studies that have proved the effect of fiber in reducing blood glucose, while also suggesting it to the diabetics. Here's a research that is a wonderful addition to the piling evidences for use of fiber against diabetes. You might want to have a look here.

Many other scientific studies have also associated polyphenols (eggplants are rich in polyphenols) with increased insulin secretion and reduced sugar absorption, both of which can help the diabetics.

VI CONCLUSION

Solanum melongena is a plant with many medicinal properties. Various parts of the plant are useful in the treatment of inflammatory conditions, cardiac debility, neuralgias, bronchitis and asthma. But detailed studies on chemical composition of the plant fractions, as well as different signalling pathways are not available. After observing the pharmacological studies reported in the review it would be necessary to carry out further study to confirm the true potential of *Solanum melongena*, so that it may be clinically applicable and commercially viable.

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