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Review on imperative species of medicinal plant: *Luffa accutangula*. An Update

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ABSTRACT

Medicinal Plants form the basis of traditional medicinal system. The medicinal plants usage is higher in developing countries with respect to the developed nations. In past the usage of medicinal plants use of medicinal plants and traditional medicines derived from medicinal plants has increased at great pace. The reported sales of medicinal plants or herbal medicines have crossed \$ 60, 000 million dollars in year after 2000. *Luffa accutangula* is herbal plant, whose fruit is commonly used as vegetable as well as traditional medicines derived from medicinal plants were reported to be around 40 to 50 percent of population using it in Germany, around 43 percent usage in America, and around 48 percent in Australia and 49 percent in France. However in recent few decades (i.e. three decades) in Asian countries the sales have risen sharply. The plant is highly rich in medicinal values, and many pharmacological activities have been reported in the plant. Looking at the richness of Gourd (*Luffa accutangula*) the present review has been written in order to provide an up-to-date report on this imperative species of medicinal plant.

Keywords: Medicinal plants, Herbal remedies, Pharmacology of medicinal plants, *Luffa accutangula*

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INTRODUCTION

Medicinal plants are in use by humans, since ages. The traditional systems of medicine, basically the Chinese traditional medicine, India's Ayurveda system of medicines, and Arabian unani system of medicines, are highly useful source of medicinal products, and effective in healing large number of ailments and diseases. The plant *Luffa accutangula* is highly used vegetable source, where its fully grown fruit is used to make cooking dishes in Indian and Asian households. The use of medicinal plants and herbal plants in developed countries is around 40 % to 50 % in Germany, around 40 % in United States of America, and around 48 % to 49 % in Australia and France. The basic advantage of medicines derived from medicinal plants, or the medicines derived from the phyto constituents present in any medicinal plant, is highly effective and efficient in dealing with wide range of diseases as well as ailments in humans, and animals. Another advantage of medicinal plants over the allopathic medicine system is that, medicinal plants have no or very minute side effects in the patients in which these medicines are used, hence better healing with no disadvantages per se. The global sales of medicinal plants, in recent times have exceeded to around \$ 60, 000 million dollars approximately since 2002. Herbal remedies, and decoctions prepared from medicinal plants, are better adjusted and accepted by the patient's body, compared to the conventional allopathic medicines and subsequent treatments. The treatment protocols followed using medicinal plants, help in better and full recovery of the patient from the diseased state as medicinal plants help in cleansing the body from the roots of diseased situation. ^[1]

Plant Profile

Luffa accutangula is commonly known as Ribbed Sponge Gourd. It is commonly used in Indian cooking system, as vegetable where the fully grown fruits of the plant *Luffa accutangula* are cooked as very delicious recipe in Asian and Indian households. It is known in India, as Karviturai. And tori in other parts of the country. *Luffa accutangula* belongs to Plantae kingdom, Cucurbitaceae family, *Luffa* genus, and *accutangula* species. The leaves of the plant are used in many households as insect killer, and as decoction to prevent infections in the body. The plant is commonly available as herb in India, and other Asian countries. The fruit is commonly cooked as vegetable and eaten as pickle in raw manner in many parts of the Asian continent. The Figure 1, shows the fully grown fruit of the plant *Luffa accutangula*. ^[2]



Figure 1: Luffa accutangula fruit

UPDATED LITERATURE REVIEW

Pimple, BP et al. studied gastroprotective role of methanolic extracts as well as aqueous extracts of roots of *Luffa accutangula*. The researcher studied the antioxidant and gastroprotective++ role of roots extracts of the plant at doses of 200/400/800 mg/Kg body weight. The results for methanolic extracts were positively higher compared to aqueous extracts. The plant roots have been found to be both antioxidant as well as gastroprotective.

Anitha, J et al. studied or carried a systemic review study of leaves of *Luffa accutangula*, and specifically studied the plants role as quantitative anti-inflammatory. The findings confirmed the ayurvedic uses of the plant as an effective anti-inflammatory plant.

Bulbul, IJ et al. studied comparative research of *Luffa cylindrical* and *Luffa accutangula* as effective, antioxidant, anti-bacterial and cytotoxic effects of various extracts of both the plants. From the findings the astonishing antibacterial and cytotoxic effects were found in the ethyl acetate extracts of *Luffa acutangulan* leaves. From the findings the researcher presses on the point that both the plants are highly effective in treating bacterial, cancer, and free radical scavenging agent. Hence from researchers research it is found that the plant is effective in dealing with various ailments.

AZZEZ MA et al. studied antioxidant and antiviral as well as anti-toxic effects in plants of *Luffa* genre and found out that the plant has medicinal properties which can help in treating various diseases.

Palash, P et al. studied anti-inflammatory effect of ethanolic extracts of the plant *Luffa accutangula*, and was astonished that the plant extract is highly effective anti-inflammatory medicinal plant.

Mustarichie, R et al. studied anti-bacterial properties of the ethanolic extract of the plant *Luffa accutangula*. His research findings confirmed the use of plant as medicinal plant in treating various

bacterial diseases and he specifically stresses upon bringing the medicinal properties of plant *Luffa accutangula* in dealing with bacterial diseases among the mainstream patients.

Abdel-Salam, IM et al. studied the cytotoxic effects in the plant of *Luffa* genre and confirmed through his research that the plant *Luffa* is an effective medicinal plant for curing not only other diseases but also those related to cytotoxic actions of various viral and bacterial infections.

Suryanti, V et al. studied antioxidant activities and phytochemic screening of various extracts of leaves of plant *Luffa accutangula*. From the research it was found that the Beta carotenes, flavonoids and total phenolic are the responsible phytochemicals for the antioxidant activity of the medicinal plant *Luffa accutangula*.

Ibrahim, et al. studied the Hepatoprotective effects of the plant *Luffa accutangula* and the research results showed effective medicinal values as hepatoprotective agent in the phytochemicals of the plant *Luffa accutangula*.

Sharmin et al. studied the antidiabetic properties in the ethanolic and aqueous extracts of the leaves of the plant *Luffa accutangula*, and found that the ethanolic extracts has effective antidiabetic property against the laboratory induced streptozotocin induced diabetic rats. Hence, the researcher confirmed through his experiment the antidiabetic medicinal property of plant, *Luffa acutangula*

Juma et al. studied in another experiment the glucose-lowering effects the ethanolic extracts of the plant *Luffa accutangula*

Sharmin et al. studied the lipid lowering effects in the plant *Luffa accutangula* (Roxb.) and found that the plant has effective medicinal property as lipid lowering medicinal plant.^[3]

Vanajothi, R. et al. studies the anti-cancer effects in that plant *Luffa accutangula* along with other plant, *Lippia nodiflora*. In the researchers present study designed to test the significance of the plant *Luffa accutangula* against the lung cancer cell lines of the human, i.e. NCI-H460, the anticancer ability of the plant was tested. Upon researching and calculating the response and results, it was found, that the plant phytoconstituents were responsible for the apoptosis of the cancer cell lines, indicating that the plant is highly effective in treating the patients with lung cancer, or other cancers. The researcher further emphasized the higher research to be carried out on the plant in order to fulfill the need of huge amount of cancer drugs needed to tackle the cancer disease worldwide.^[4]

Saeed, A. et al. studied the biotechnological advantages of the plant *Luffa accutangula* and species of genre *Luffa*, and found that the plant and its genre are highly effective biotechnological source in order to deal with wide variety of diseases and ailments.^[5]

CONCLUSION

The plant is highly effective in dealing with wide range of diseases and ailments. Plenty of research has already been done in order to find effectiveness of the plant in not only dealing with infections, but also in apoptosis of cancer cell lines, i.e. its effective anticancer agent as well. Medicinal plants shall be researched more and more across the globe. And procedures to bring herbal medicines or traditional medicines in conventional usage is highly imperative now.

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