Chapter 7
Therapeutic Properties of *Syzygium cumini* (Jamun) and *Tinospora cordifolia* (Giloy) Against Various Lethal Diseases

Ankita Gautam
Gautam Buddha University, India

ABSTRACT

Phytochemicals have recently been studied in vivo for their unmatched interactions in curing lethal diseases that can't be cured by allopathic medical intervention without any adverse effect on the patient health. These methods were being used in ancient India, where Jamun and Giloy have been used to decrease hormonal imbalance and pathological disorders. Signaling pathways of the active components of Tinospora cordifolia thus enable effective disease targeting. With so much to offer to the scientific world of medicine, the plant Tinospora truly acts as an incredible source as it deals with seasonal fever like Dengue, Malaria, Chickengunia, and anticancer and anti-HIV (research undergoing). Whereas the Syzygium cumini (Jamun) fruit and seed hold worth in treating various diet-related malfunctions, especially hyperglycemia. In the current research, Jamun seed and fruit extracts have been proved effective in the regulation of blood glucose and insulin parameters.

INTRODUCTION

In the treatment of traditional diseases, naturopathic doctors prescribe medicines made from natural products like herbs, mixture of herbal components, herbal preparations, and flawless herbal products. The use of natural remedies for treating infections have been widely followed by descendants of most countries throughout the globe. In India the widely followed traditional medicine systems include Unani and Ayurveda. In China, people usually follow and use both traditional medicines and allopathic medicine equally to diagnose, treat and prevent human ailments (Holtz, 2007). The practice of treating diseases by medicines of herbal origin has been increased enormously and two-thirds of the world's population

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use herbal medicinal products for primary healthcare. Many countries around the world have produced a variety of effective drugs to treat infections and their use all over world is increasing. Some medicinal plants are currently investigated for diuretic and antioxidant actions, and many have been known to have potent diuretic and antioxidant properties. Treatment of the diseases by employing synthetic drugs on one hand give relief to body, but simultaneously they lead to various side effects, and more chances of re-emergence of the disease. Various medicinal plants have been observed to show diuretic and antioxidant assets and researches are continuing to find other plants having these potentials. This chapter highlights the various pharmacological activities of *Syzygium cumini* Linn. Skeels (Myrtaceae) and *Tinospora cordifolia* (Thunb.) Miers (Menispermaceae) and their role in treating different ailments in the human body. Table 1 and 2 described the various pharmacological activities of these plants.

THERAPEUTIC PROPERTIES

Syzgium Cumini Linn. Skeels Myrtaceae) (Syn. Eugenia Jambolana Lam.)

S. cumini is a large evergreen tropical tree and also known as black plum or jambolan. *S. cumini* is very well known for their pharmacological properties. The native home of the *Syzgium* is India and East Indies. The tree fruits once in a year and the berries are sweetish sour to taste. The ripe fruits are used for health drinks, making preserves, squashes, jellies and wine. All parts of the plant especially the seeds are used to treat various diseases, the most important being diabetes mellitus. The medicinal value is due to presence of malic acid (Wealth of India, 2002; Ivan, 2006). Various pharmacological activities of this plant described in table 1.

Gastroprtective and Anti-Ulcerogenic Activities

The gastric mucosal damage was induced in 68 Sprague-Dawley rats by oral gavage administration of HCL/ethanol solution. For investigation, three group were formed, a negative control, an omeprazole group and a tannin group. Microscopic examination using Best's Ulcer Staging Index showed that tannins had a very significant decrease in gastric mucosal damage. Studies for amount of gastric damage also been carried out it shows lower stomach free radical concentration in rats fed with a dose of 20gm tannins/kg of rat (Ramirez & Roa Jr, 2003).

Anti-Inflammatory Activity

The ethanolic bark extract of *S. cumini* has been reported to showed anti-inflammatory activity against histamine, serotonin and prostaglandin. Inflammation was induced by individual autacoids insult, Histamine (1mg/mL), serotonin (5-HT, 1mg/mL), bradykinin (0.02mg/mL) and prostaglandin (PGE2, 0.001mg/mL) was used as inflammogens. The ethanolic extract of this plant showed anti-inflammatory effects in histamine, PGE2 and 5-HT induced rat paw oedema (Pandey & Khan, 2002).