



Ethnopharmacological Insights on *Plumeria obtusa* L.: A Comprehensive Review of its Phytochemistry and Pharmacological Properties

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Abstract: This extensive review paper explores the ethnopharmacological viewpoints of *Plumeria obtusa* L. (commonly referred to as "Frangipani"), clarifying its complex phytochemistry and range of pharmacological characteristics. *Plumeria obtusa* has a long history of ethnobotanical uses and is widely used in traditional medicinal practices across many countries. Through a methodical investigation of its phytochemical components, the review reveals a diverse range of bioactive substances such as phenolic compounds, alkaloids, flavonoids, and terpenoids. The plant's potential for medicinal use is greatly enhanced by these ingredients. There is a thorough discussion of *Plumeria obtusa*'s pharmacological characteristics, including its anti-inflammatory, antibacterial, antioxidant, and anticancer effects. Using information gathered from both current and historic studies, the article offers a comprehensive overview of the plant's many therapeutic uses. It also provides insights into the significance of using scientific research to validate traditional applications, opening the door for *Plumeria obtusa* incorporation into contemporary healthcare procedures. This paper focuses on *Plumeria obtusa* ethnomedical usage, describing its traditional use in the treatment of a range of ailments. The study points out information gaps and suggests future studies to explore its therapeutic and multi-mechanistic approaches. It also suggests possible directions for clinical investigations. To sum up, this study provides a comprehensive overview of *Plumeria obtusa* L. by combining ethnopharmacological ideas, phytochemical data, and pharmacological discoveries. This plant presents itself as a good option for new medicinal uses when conventional wisdom and scientific investigation are combined.

Keywords: *Plumeria obtusa* L., ethnopharmacology, phytochemistry, traditional medicine, pharmacological properties, therapeutic applications.

1. INTRODUCTION

Traditional systems of medicine refer to comprehensive healing approaches that have been developed and practiced for generations in various cultures and regions around the world. These systems are based on accumulated knowledge, beliefs, and practices passed down through oral traditions, written texts, and practical experiences. Originating in ancient India, Ayurveda is one of the oldest known systems of medicine. It focuses on the balance of bodily systems and the use of herbs, diet, lifestyle modifications, yoga, and meditation to maintain health and treat diseases. Ayurveda categorizes individuals into different constitutional types and prescribes personalized treatments. Originating in ancient

Greece, Unani medicine, often referred to as Yunani medicine, was subsequently developed throughout the Middle East and South Asia. It highlights the equilibrium of the body's four humors—blood, phlegm, yellow bile, and black bile and integrates concepts from humoral theory. To restore health, Unani medicine helps in physical therapy, nutritional advice, herbal medications, and regimental therapies [1–4].

Global recognition and integration of traditional medicine into national healthcare systems established regulatory frameworks, educational programs, and research institutions to support the integration and safe use of traditional medicine alongside modern healthcare. Traditionally utilised for centuries as an all-natural means of preventing and treating a wide range of illnesses, medicinal plants are sometimes referred to as herbal medicines or cures. These plants have bioactive substances with medicinal qualities that may benefit people's health. Plants that have been traditionally used

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