

Azadirachta indica (Neem) and its Active Ingredients' Therapeutic Significance in the Prevention and Treatment of Diseases

Dipika U. Gite¹ and Dr. Kazi Mehraj Abukalam²

Department of Pharmacy^{1,2}

Shri Jagdishprasad Jhabarmal Tibrewala University, Jhunjhunu Rajasthan, India

Abstract: *Neem (Azadirachta indica) belongs to the Meliaceae family and is known for its health-promoting effects due to its high antioxidant content. It has been extensively utilised in Chinese, Ayurvedic, and Unani remedies globally, particularly in the Indian Subcontinent, for the treatment and prevention of several ailments. Prior research has established that neem and its components are involved in the removal of free radicals and the prevention of disease development. Research conducted using animal models has demonstrated that neem and its primary components play a crucial role in the management of cancer by influencing numerous molecular pathways, such as p53, pTEN, NF-κB, PI3K/Akt, Bcl-2, and VEGF. Medicinal plants are often regarded as safe and have the ability to regulate many biological processes without causing any negative effects. This article provides an overview of the role of Azadirachta indica in the prevention and treatment of illnesses by regulating different biological and physiological pathways.*

Keywords: Neem (*Azadirachta indica*)