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**ABSTRACT** Azadirachta India, Commonly known as neem has attracted worldwide prominence in recent years owing towards wide range of medicinal properties: neem has been extensively used in ayurveda, unani and homoeopathic medicine and has become a cynosure of modern medicine. Neem elaborates a vast array of biologically active compounds that are chemically diverse and structurally complex. More than 140 compounds have been isolated from leaves, flowers, seeds, fruits, roots, and bark have been used traditionally for the treatment of inflation, infections, fever, skin diseases and dental disorders. The medicinal utilities have been described especially for neem leaf. Neem leaf and its constituents have been demonstrated to exhibit immunomodulatory, Anti inflammatory, Anti hyperglycaemic, anti ulcer, antimalarial, antifungal, antibacterial, antiviral properties. This review summarises the white range of pharmacological activities of neem leaf.

### KEYWORDS :

#### INTRODUCTION:

The neem tree *Azadirachta Indica* A. belongs to family Meliaceae, is a Tropical Evergreen related to mahogany. It grows much of South East Asia and West Africa. The people of India have long revered the neem, for centuries millions have cleaned their teeth with neem twigs, smeared skin disorders with neem leaf juice, taken neem tea as a tonic and placed name leaves in their beds, books, grain bins, cupboards and closets to keep away troublesome bugs. The neem tree, was introduced to Baja California Sur Mexico in 1989 by a group of private producers dedicated to organic horticulture in San Jose del Cabo. The first three were brought from the Philippines<sup>(12)</sup> and in 1992 these species was introduced to Yaqui valley Sonora Mexico.<sup>(3)</sup>

#### Morphology:

Neem is a medium-sized tree reaching 15-30 m in height with a large rounded crown up to 10-20 m in dia. It is mainly Evergreen but sometimes shed its leaves during the dry season. Neem has a deep taproot and is a mycorrhizal dependent species. The bark is grey becomes finished and flakes in old trees full stop their branches are numerous and spreading.<sup>(5,6)</sup>

#### Biological Source:

Neem consists of fresh or dried leaves and seed oil of *Azadirachta Indica* j.juss (*Melia Indica* or *M. Azadirachta* linn).

#### Geographical Source:

It is found in India, Pakistan, Sri Lanka, Malaya, Indonesia, Japan, tropical region of Australia and Africa. In India it is found in Uttar Pradesh, Maharashtra, Tamil Nadu, Rajasthan, Madhya Pradesh.

#### Pharmacological Implementation of *Azadirachta Indica*:

##### 1) Antioxidant activity:

Free radical or reactive O<sub>2</sub> species RA one of the fundamental offenders in the genesis of different illness. Not with standing, neutralization of free radical activity is one of the imperative strides in the maladies counteractive action.

Antioxidants stabilise/deactivate free radicals, regularly they solved focuses in biological cells.<sup>9</sup> Furthermore assume job in the control of harm brought about free radicals by activating the antioxidative protein.<sup>10</sup>

##### 2) Anti-inflammatory activity:

Plants and their isolated derivative Are in the practice to treat slash act as in anti inflammatory agent. A study result has confirmed that extract of *azadirachta indica* leaves at a dose of 200 mg/kg p.p.o, showed significant anti inflammatory effect ctton pellet granulosa assay in rodent<sup>12</sup>.

##### 3) Antibacterial activity:

Aceton extract of *Aza Azadirachta Indica* exhibit stronger inhibition against gm(+ve) bacteria (*E.coli* and *P. aurginosa*) with MIC values of 10mg/ml and 25 mg/ml respectively. The cytotoxicity was evaluated based on the LC<sub>50</sub> values of the extract.<sup>15</sup>

##### 4) Anti diabetic activity:

The hypoglycemic activity of neem has eggs examined on a diabetic rates. After 24 hours of RX neem 250 mg/kg (single dose study) reduced glucose (18%) cholesterol (15%) Triglycerides 32%, urea (13%), Creatinine (23%) and Lipids (15%). neem significantly reduces glucose level at 15th day in diabetic.<sup>16</sup>

##### 5) Anti-Dental Caries:

A neem extract dental gel significantly reduce plaque and (bacteria). *Streptococcus* (mutants) and *lactoBacilli* species were (tested) Over the control group that used commercially available mouth wash containing the germicidal chlorhexidin-gluconate (0.2% w/v)<sup>17</sup>.

##### 6) Anti-stress:

Low doses of neem leaf extract produced sedative effect. The effect disappeared at higher doses approx 400 or 800 mg/kg of body weight. It also reduced the anxiety and stress.

##### 7) Anti-vitiligo:

Vitiligo is believed to be an autoimmune disorder that causes patches of skin and loss its colour the doses of 4 grams of neem leaves 3 times a day ideally taken before each meal. Neem oil is applied over the affected areas aid in the reversal of discoloration.

##### 8) Skin Disorder:

Neem are used to treat the many skin disorders, including Scapes and lies in a paste combination with *curcuma longa* (Turmeric), neem (*Azadirachta. Indica*) was used to treat scabies in 814 people 97% of them cured within 3 to 15 days of application.<sup>21</sup>

#### CONCLUSION:

Neem has much importance, usefulness of neem has already mentioned in several literature. Ayurveda has mentioned its use in many disease conditions. No Public awareness for herbal products are increasing highly so it has been found demand of neem products are increasing day by day. Neem is a plant whose every part holds multiple usage. Researcher has reported many medical benefits of Neem.

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