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A REVIEW ON CORDIA OBLIQUA OLD-FASHIONED UTILIZES, PHYTOCHEMICALS AND MATERIA MEDICA ACTIVITIES

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ABSTRACT

For thousands of years, people have utilized plants flavor and preserve food, cure medical conditions, andprevent diseases like epidemics. Another name for *cordia obliqua*is "clammy cherry''. It is a species of flowering plant in the genus cordia and family Boraginaceae. It has over 2700 tree and shrub species, most of which are located in warmer regions of the planet. It is a medium-sized deciduous tree that grows quite quickly.[15] It has anthelmintic, antipyretic, analgesic, diuretic, expectorant, andhepatoprotective properties, in accordance with the conventional system. This plants therapeutic potential will expand once a number of its folk uses receive scientific validation. The pharmacognostic characteristics, phytonutrient components, conventional applications, and biological activities reported for the plant. The researchers will find it useful to investigate their understanding of *cordia obliqua* wild.[4]

KEYWORDS: Clammy cherry, folk applications, Materia medica activities, Medicines, Phytonutrients.[4,15]

INTRODUCTION

Globally, the genus cordia has over 300 species. This genus has 13 species that can be found in India. Wild's *cordia oblique* is one of them. There are over 2700 species present in this family and they are found in tropical, subtropical, and warm climates all over the world.[12, 16] Its plant components have been employed in the Indian folk medical systems of Ayurveda, Siddha, Unani, and Folk to treat a variety of illnesses. Its fruit is delicious, has diuretic, anthelmintic, propagative, expectorant, maturant properties and is helpful for chest and urethral disorders, dry cough, biliousness, chronic fever, and aches in the abdomen your joints.[16]

The uncooked fruits make excellent pickles and vegetables. The fruits mucilaginous material can be utilized as a paste for cardboard and sheets of paper. An analysis of the phytonutrient composition reveals the presence of phenolic, pyrrolizidine, flavonoids, alkaloids, tannins, triterpenes, and derivatives of phenylpropanoid derivatives.[10]

Botanical details: *Cordia obliqua* is found almost everywhere in India and Ceylon's warmer regions. The leaves are glabrous, alternating, and whole to slightly dentate. Flowers are glabrous, actinomorphic, complete, bisexual, short-stalked, and white. A flower's typical diameter when fully opened is 6 mm. When ripe, the fruit is a drupe that is 1.3 to 2.5 cm long and yellowish brown, pink, or almost black. The seeds are mildly sweet in taste.[12]

Table No. 1

Scientific classification	
Kingdom	Plantae
Subkingdom	Tracheobionta
Super division	Spermatophyta
Division	Magnoliophyta
Subclass	Asteridae
Order	Lamiales
Family	Boraginaceae
Subfamily	Cordioideae
Genus	Cordia
Species	Obilqua willd

Traditional uses: In the past, several activities have been reported from different areas of this plant. The leaves, roots, flowers and barks are widely used in traditional folks. It is practiced for treating purgative, urethra, dry cough, biliousness and chronic fever etc. It also

has several properties like anti- inflammatory, anthelmintic, diuretic, and laxative and antioxidant.[6]

Table No. 2

Traditional uses of *cordia obliqua*	
Parts	**Health Benefits**
Leaves	Ulcers And Headache.
Fruit	Anthelmintic, Analgesic, Antimalarial, Purgative, Diuretic, Expectorant And Useful In Diseases Of The Chest, Urethra, Dry Cough
Kernals	Ringworm Infections
Barks	Mild Tonic, Fever

Physiochemical constituents: The Physiochemical studies of this plant hinted that the plant retains phenols, alkaloids, tannins and reducing sugar, alpha-amyrin, betulin, octacosanol, lupeol-3-rhamnoside, beta-sitosterol, Allantoin-β-sitosterol, Hesperetin-7-rhamnoside, hentricontane, taxifolin-3,5-dirhamnoside.[1,17]

Table No. 3

Different parts of *Cordia Obliqua* and Phytochemical constituents	
Parts	**Constituents**
Leaves	Steroids, Phenols, alkaloids
Fruit	Pectin, reducing and non-reducing sugars, protein
Seeds	Alpha-amyrin, betulin, octacosanol, lupeol-3-rhamnoside, beta- sitosterol, beta-sitosterol-3-glucoside, hentricontanol, hentricontane, taxifolin-3,5-dirhamnoside and hesperitin-7-rhamnoside
Roots	Hesperetin-7-rhamnoside, tannins, alkaloids
Stem bark	Allantoin-β-sitosterol, flavonoids

Phytonutrients

Fruit

The fruit has 75g of moisture, 4.5g of pectin, 3.55g of total sugars, 3.41g of reducing sugars, and 0.08 g of non -reducing sugars.It also has 2.06g of protein, 2.132g of ash, and 0.091g of phosphorus, potassium, and magnesium. Natural gums and mucilage also contains the fruit part.[10]

Fig. 1: Cordia obliqua willd (Fruit).

Iron is 0.005g, calcium is 0.062g, and other values are per 100g of the edible portion. Fruit pulp's overall soluble solids content is 10.2%. Phenols, alkaloids, tannins, and reducing sugar were all present in the powdered leaf, stem, and root extracts.

Leaf

Numerous chemical analysis were carried out in a photochemistry study of *cordia obliqua* leaf aqueous extract to identify different chemical constituents, and this study confirmed that only steroids are present in leaf aqueous extract and that saponins, flavonoids, terpinoids, cardiac glycosides, and tannins are absent.[13]

Fig. 2: Cordia obliqua willd (Leaf).

Seeds

Alpha-amyrin, betulin, octacosanol, and lupeol-3-rhamnoside were isolated and characterized as a consequence of chemical analysis of *cordia obliqueseeds*.[1]

Fig. 3: Cordia obliqua willd (seed).

Stem bark

Allantoin-sitosterol and certain flavonoids were extracted from the stem bark of *cordia obliqua.* Along with coconut oil, the bark's juice is administered as a gripe remedy. Unripe fruit and the bark are combined to make a mild tonic.[17]

Fig. 3: Cordia obliqua willd (Bark).

Materia medica activities of *c.obliqua*

1. Anti-inflammatory activity

The anti-inflammatory properties of the cordia genus are widely established in herbal therapy. For different kinds of inflammatory disorders, it is both ingested and topically applied. Alpha-amyrin, botulin, octacosanol, hentricontane, and hesperitine-7-rhamnoside were all isolated and identified through chemical analysis of cordia oblique seeds. Several extracted compounds from cordia obliqua seeds were the subject of a study to determine their anti-inflammatory effect.[1]

2. Antimicrobial activity

The Zone inhibition experiment was used to test the cordia obliqua seeds and leaves for antibacterial activity against several oral pathogenic strains of Gram- positive bacteria (streptococcus mitis, S.mutans and S.sanguis), Gram- negative bacteria (Pseudomonas gingival is Bacillus forsythias and Aggregatibacter actinomycetemcomitans).

The cordia obliqua plant's leaves and seeds methanolic extract has been study as a potential antibacterial agent for treating and preventing illnesses and infections of the mouth.[19]

3. Antidiabetic activity

Diabetes mellitus (DM) is a chronic metabolic illness caused by a complete or partial shortage of insulin. It is characterized by hyperglycemia in the postprandial and/or fasting state, which is typically linked to Ketosis and protein depletion in severe cases. Patients with diabetes can currently be treated with *cordia obliqua*fruit.[11]

4. Diuretic activity

Cordia obliqua plant as diuretic activity. A number of traditional activities of this plant still need scientific approval which will increase its medicinal potential. The fruits were utilized to explore a variety of activities, including diuretic, antiprotozoal, antiviral, and other effects.[15]

1) Antioxidant activity

The *cordia obliqua* flower buds (40.6 mg/g) and the leaves (40.8mg/g) had the highest antioxidant activity. The range suggests that it has good scavenging abilities. The leaf methanol extract was found to have maximum amount of phenols and flavonoids. It act as good antioxidant and it may also be helpful in other biological activity study.[11]

5. Antidote

Antidote refers to a remedy that is meant to counteract the effects of a poison. The plant *Cordia obliqua* leaf juice is used as antidote in snake bite.

6. Laxative and Astringent

The leaf juice is used as laxative and larger doses are given in bilious affection, decoction of stem bark is given as astringent gargle along with coconut oil. It also useful in ulcers and headache.

CONCLUSION

Cordia obliqua Willd is a well-known and commonly found tree. Traditionally it has a number of medicinal activities and its fruits are utilized in form of pickle and vegetable all over India. Although its distribution is very common, yet very less research has been done on this plant parts as compared to other *Cordia* species. Many of its traditional uses are still scientifically unproved. Beside this, very less data is available showing the morphology and histology of this plant. So it is required to explore the knowledge about its identification, investigation of its phytochemicals and biological evaluation of various traditionally mentioned activities.[12] A significant and underutilized forest plant with a wide range of industrial, dietary, and therapeutic uses is C. obliqua. Because of its great nutritional value, its bloom bud is utilized as a raw vegetable. It also includes a number of other elements, including S, K, Mg, P, Mn, Ca, Fe, Zn, Ni, and Cu. In addition, the flower buds contained substantial levels of protein, vitamin C, phenols, and flavonoids.[9] In accordance with recent survey there was a lack of studies undergone in the fruits and leaves of cordia obliqua were performed.

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