



REVIEW ON ZIZIPHUS OLENOPLIA SHRUB IN VARIOUS ASPECT RELATED TO THEIR PHARMACOLOGICAL PROPERTIES

¹*Dr. Rashmi Kumari, ²Dr. S. K Mishra, ³Dr. Vachaspati Dubey and ⁴Ruchi Singh

^{*1, 3, 4}Narayan Institute Of Pharmacy, Sasaram Jamuhar, Bihar India 823105.

²Department of Pharmaceutical Engg. and Technology(IIT) BHU, Varanasi.

***Corresponding Author: Dr. Rashmi Kumari**

Narayan Institute Of Pharmacy, Sasaram Jamuhar, Bihar India 823105.

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ABSTRACT

Ziziphus Oenopia (L) Mill (Rhamnaceae) is an annual herb used in various traditional medicine. This review focus on different parts uses having different pharmacological aspect. In present scenario the pharmaceutical companies and government more focus on herbal medicine and their preparation which is more eco friendly and less side effect and resistance. Ziziphus Oenopia contain Alkaloid, Tannin, Saponin, Sterol, Flavanoid, Triterpenes and reducing Sugar which having different pharmacological properties that provide collective information. Ziziphus Oenopia multipurpose plant used in the treatment of Uterus inflammation, Anthelmintic, Astringent, Digestive, Stomachlegia, Healing of wound, Hyperacidity, Ascaris infection, Hepatoprotective, Headache, Immunomodulator, Antioxidant and Ulcer protective.

KEYWORDS: Medicinal plant, Antioxidant, Ulcer protective.

INTRODUCTION

Ziziphus oenopia an important shrub often found throughout the hotter part of India, Ceylon Topical asia and Australia.^[1] It is distributed from Indian subcontinent through southern China and Southern East asia to northern Australia.^[2, 3] Ziziphus oenopia commonly known as jackel jujube, small fruited jujuba or wild jujube in hindi known as Mokora Is a flowerin plant with a broad distribution through tropical and subtropical asia and Australiasia.

Synonym-Rhamnus Oenopia.

Kingdom-Plantae

Family-Rhamnaceae

Species-Oenopia

Description-It is spreading, sometimes climbing, thorny shrub growing to 1.5 m in height.

Leaves-Simple, acute and oblique

Flower-Green, Subsessile axillary, chyme

Fruits-Globose, drupe, black and shiny when ripe containing single seed.^[4]

MEDICINAL USES^[5, 6]

Plant Part	Uses
Bark	Healing Wound, Stomachache, mouth wash, Uterus inflammation
Root	Anthelmintic, astringent, Digestive, Stomachlegia healing of wound, Hyperacidity, Ascaris infection
Leaves	Dressing for wound
Barries	Hyperacidity, Ascaris infection, Headache

Nutrient in ziziphus Oenopia-Alkalod, Aminoacids, Betulic acid, Cyclopeptides, Peptides, Flavanoids, Tannins.^[7]

PHARMACOLOGICAL ACTIVITY

1.Wound Healing Activity

Wound healing activity of aqueous and alcoholic extract of fruit of Ziziphus oenopia was evaluated by excise, incision and dead space wound model on rat. The study was carried out by topical application of 5%w/w ointment of aqueous and alcoholic extract was prepared in 2% sodium alginate. The recent study on wound healing activity claim that flavanoids promote significant

wound healing property. Flavanoid protect the body against reactive oxygen species.^[8]

2.Angiogenic activity

The angiogenic potential of an ethanolic extract of Ziziphus oenopia was evaluated by the Chick chorioallantonic membrane (CAM) model (in -vitro) in 9 days old fertilized chick egg. The tested extract was found to be increase the number of capillaries on the

treatment CAM surface from three 9 days old fertilized chick eggs. These findings suggested that the ethanolic extract of *Ziziphus oenoplia* root possesses significant angiogenic potential, which may be beneficial in the treatment of wound healing.^[9]

3. Immunomodulator effect

Lactin are the complex and heterogeneous group of carbohydrate binding protein, commonly found in all types of organisms with striking biological activities. Many anti-inflammatory synthesis medicines are available but they show many side effects. In the context of anti-inflammatory compounds free from any adverse effect, the most active Lactin isolated from seeds of *Ziziphus oenoplia* is tested for its anti-allergic and anti-inflammatory activities.^[10]

4. Anti-microbial activity

The antimicrobial activity of acetone and methanolic leaf extract from *Ziziphus oenoplia* was tested against three gram negative bacteria (*Pseudomonas putida*, *Vibrio cholera*, *Shigella flexneri*) and two gram positive bacteria (*Staphylococcus aureus* and *Bacillus Sp.*) and two fungal strains (*Candida albicans* and *Cryptococcus neoformans*) by conducting a well in agar method. P. peptide and *V. cholerae* exhibited better resistance against the plant extracts followed by *Shigella flexneri* and *Bacillus Sp.* Pathogen were ineffective against the plant extract.^[11]

5. Anti-Analgesic activity

Ziziphus Oenoplia (L) Mill (Rhamnaceae), commonly known as jackal jujube, small fruited jujube or wild jujube is a flowering plant with a broad distribution through tropical and subtropical Asia and Australia. The three different solvent extracts of *Z. oenoplia* leaf for their analgesic potential by acetic acid induced writhing experiment in Swiss albino mice. All the test extracts exhibited significant analgesic activity. The methanolic extract was found to be the most potent followed by the chloroform and petroleum ether extract.^[12]

6. Anthelmintic Activity

Alcoholic extract of *Ziziphus oenoplia* extract significantly active against roundworm infections. Anthelmintic activity of the drug increases with increase in the concentration of ethanolic extract of the root powder of *Ziziphus oenoplia* in comparison with the standard drug Albendazole. The time taken for the paralysis and death of the earthworm by the ethanolic extract is found to be desirable.^[13]

7. Antioxidant Activity

Ziziphus Oenoplia (L) Mill be a potential natural source of anti-oxidant and could have greater importance as therapeutic agent in preventing or slowing oxidative stress related degenerative disease. The DPPH (1, 1-diphenyl 1, 2-picrylhydrazyl) has been used to evaluate the antioxidant activity of plant. It has been recognized that alkaloid and flavanoid shows anti-oxidant property and their effect on human nutrients and health

care. Mechanism of action of Alkaloid are through inhibition of peroxidation and flavanoid through scavenging activity.^[14]

8. Anti-diarrhoeal activity

Ziziphus Oenoplia (L) Mill family (Rhamnaceae) is an annual herb that is used in the traditional medicine of Iran for treating stomach and intestinal disorder. *Ziziphus Oenoplia* having Antidiarrhetic and Antidiarrhoeal properties. They were found to be certain alkaloid, saponins, sterols, and Triterpenes and reducing agent. Methanolic extract of *Ziziphus Oenoplia* root showed significant anti-diarrhoeal activity comparable with that of the Standard Drug Loperamide.^[15]

9. Hepatoprotective activity

Ziziphus Oenoplia (L) Mill liver function by decreasing the Serum GOT, GPT, and alkaline phosphatase level in hepatotoxic rat. Treatment with ethanolic extract of *Ziziphus Oenoplia* reduced the serum ALP as well as total Bilirubin level.^[16]

10. Anti-Ulcer Activity

The indomethacin induced ulcer is mediated through tissue damage by the free radical which are generated free from the conversion of the hydroxyl fatty acids which are in turn generated from the degeneration of mast cells and generalized lipid peroxidation accompanying cell damage. Total alcoholic extract and ethanolic fraction inhibit the ulcer index. This may be due to increase in the prostaglandin synthesis, decrease in acid secretion and back diffusion of H^+ .^[17]

CONCLUSION

The whole plant has its own medicinal value. *Ziziphus oenoplia* has the wide range of pharmacological activity. Significant work has been done on their pharmacological activities. *Ziziphus oenoplia* reveals the presence of Alkaloid, Flavanoid, Triterpenes which could attribute to the medicinal use.

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