WORLD JOURNAL OF PHARMACEUTICAL AND MEDICAL RESEARCH

www.wjpmr.com

Review Article
ISSN 2455-3301

WJPMR

SJIF Impact Factor: 5.922

AN OVERVIEW ON DIURETIC HERBS

Anil Kumar*, Amar Pal Singh and Ajeet Pal Singh

St. Soldier Institute of Pharmacy, Lidhran Campus, Behind NIT (R.E.C), Jalandhar-Amritsar by pass NH-1 Jalandhar-144011, Punjab, India.

*Corresponding Author: Anil Kumar

St. Soldier Institute of Pharmacy, Lidhran Campus, Behind NIT (R.E.C), Jalandhar-Amritsar by pass NH-1 Jalandhar-144011, Punjab, India.

Article Received on 09/04/2021

Article Revised on 30/04/2021

Article Accepted on 20/05/2021

ABSTRACT

As Diuretics arrangements have been used, the medicinal herb has so source. Diuretics increase the rate of urine flow rate and are thus used in a variety of syndromes such as hypertension, tension, cardiovascular issues, diabetes mellitus, and infections caused by liver degeneration. When compared to allopathic medications, these plants are moderately protected and free of poisonous effects, making them a better option for treating infections. This work may show an accomplishment in the selection of medicinal plant for conveying their work on diuretics.

KEYWORDS: Ayurveda, Diuretic, medicinal plants, Herb, Extract, Pharmacological activities.

INTRODUCTION

Herbal drugs have been used for a long time in every civilization around the world. Researchers and scientific professionals have shown an increased interest in the area when they see it as a legitimate medical field. Predecessors discovered a variety of medicinal herbs, which were used as diuretics in traditional folk medicine.[1] Natural medicines have recently gained importance and popularity as a result of their safety, efficacy, and affordability. [2] According to the Ayurvedic text, approximately 120 plants have diuretic properties. The main problem for herbs is that they have a single operation as well as a few similar exercises. Diuretic enhancers that stimulate water discharge can be beneficial in a variety of conditions, including the majority of those characterized by edema, for example, nephritis, premenstrual pressure, hypertension, migraine, hyperkalemia, renal dysfunction, and epilepsy. [3]

Mechanism of Action of Diuretics

Both proximal tangled tubule reabsorb about 50-66 percent of liquid in the proximal tangled tubule. Since it is extremely porous to water and impermeable to solutes, the Loop of Henle's slight diving appendage allows for osmotic water reflection. The reduced water retention from the Loop of Henle's diving appendage contributes significantly to the overall improved condition of diuresis. The Loop of Henle's slight climbing appendage is impermeable to water but extremely porous to chloride and sodium, so diuretics have little effect on it. [4]

Herb Used As a Diuretic

For a long time, India's herbal medicine has been used to treat diuretics. Some plants have diuretic properties that are briefly discussed in table 1.

Table 1: some herbal plants exerting diuretic property.

Plant name	family	Part used	activities
Alangium salvifolium ^[5]	Alangiaceae	Root, leaves, bark, fruits	Inflammation, hemorrhage
Acacia suma	Mimosaceae	Wood	Shvetakhadira
Artemesia thuscula	Asteraceae	Aerial parts	Antidiarrheal, uricosuric, spasmolytic
Aerva lanata ^[6]	Amaranthaceae	Entire plant	Demulcent, Anthelmintic, Antidiarrhoeal
Balanites roxburghi ^[7]	Balanitaceae	leaves	Hepatoprotective, Antinociceptive, Antioxidant
Boerhavia diffusea ^[8]	Nyctaginacea	roots	Diuretic effect
Benincasa hispida	Cucurbitaceae	Roots, leaves, fruits	Kuushmaanda
Elettaria cardamomum	Scintaminace	Fruit extracts	Carminative, Stomachic, Diuretic
Carum carvi	Apiaceae	Aqueous extract	Diuretic, Emmenagogue, Spasmolytic
Rosamarinus officinalis ^[9]	Labiatae	Aqueous extracts	Diuretic activity
Chamaemelum nobile [10]	Asteraceae	Aqueous extract	Diuretic activity
Capparis spinosa	Cappariadaceae	Bark, flower	Diuretic activity

Cocculus hirsutes[11]	Menispermaeae	Aerial parts and roots	Diuretic activity
Coriandrum sativum ^[12]	Umbelliferae	aqueous extract of seeds	Diuretic, Antinflammatory, Antiseptic
Commelina diffusa ^[13]	Commelinaceae	Extracts of the stem, leaves	Diuretic
Cynodon dactylon	Graminae	Juice	Diuretic, Antiemetic
Erica multiflora	Ericaceae	Aqueous extract	Diuretic
Erythrina indica ^[14]	Fabaceae	Extracts of leaves	Diuretic, Laxative
Hemidesmus indicus ^[15]	Apocynaceae	Root	Blood purifier, Diaphoretic, Diuretic
Hygrophila auriculata ^[16]	Acanthaceae	Alcoholic extracts	Diuretic activity
Ipomoea aquatic	Convolvulaceae	Leaves, stem	Emetic, purgative
Lagerstroemia reginae ^[17]	Lythraceae	Leaves and fruits	Diuretic activity
Lepidium sativum ^[18]	Cruciferae	Seeds	Diuretic, Tonic
Nycthanthes arbotristis ^[19]	Oleaceae	Aqueous flower extract	Diuretic
Phyla nodiflora ^[20]	Verbenaceae	Extracts of aerial parts	Diuretic, Diaphoretic,
Pongamia pinnata	Fabaceae	Methanolic extracts	Diarrhoea, Leprosy, Diuretic
Randia echinocarpa	Rubiaceae	Aqueous extract of dried fruit	Diuretic activity
Rumex abysinicus	Polyganaceae	Leaves and shoots	Diuretic activity
Rungia pectinata	Acanthaceae	Branched herb	Diuretic activity
Spergularia purpurea ^[21]	Caryophyllaceae	Whole plant	Diuretics, hypertension
Spilanthes acmella	Compositae	Fresh flowers	Diuretic activity
Tropaeolum majus ^[22]	Tropaeolaceae	Leaves	Diuretic activity
Terminalia arjuna	Combretaceae	Bark, leaves	Diuretic activity
Withania aristata ^[23]	Solonaceae	Leaves	Insomnia, Urinary pathologies
Samanea saman ^[24]	Fabaceae	Root	Diuretic activity
Morinda Citrifolia ^[25]	Rubiaceae	Fruits	Diuretic activity
Euphorbia thymifolia ^[26]	Euphorbiaceae	Crude extract	Diuretic activity
Achyranthes Bidentata ^[27]	Amaranthaceae	Seeds, roots	Antimicrobial, Diuretic Activity
Zea mays	Gramineae	Leaves, Fruit	Antiviral
Tylophora indica ^[28]	Asclepiadaceae	Extract of the leaves	Diuretic, emetic, expectorant
Foeniculum vulgare L. ^[29]	Apiaceae	Root	Diuretic activity

CONCLUSION

The aim of this study was to provide an overview of current knowledge about the use of herbs as diuretics. It should be noted that there are various medicinal plants that use diuretic movement in specific areas. In contrast to allopathic prescriptions, herbal prescriptions are free of side effects and harmfulness.

Disclosure Statement

There are no conflicts of interest.

ACKNOWLEDGMENT

It's our privilege to express profound sense of gratitude and cordial thanks to our respected chairman Mr. Anil Chopra, Vice Chairperson Ms. Sangeeta Chopra & Pro-Chairman Mr. Prince Chopra, St. Soldier Educational Society, Jalandhar for providing the necessary facilities to complete this work.

REFERENCES

1. Butler J, Forman DE, Abraham WT, "A relationship between heart failure treatment and development of worsening renal function among hospitalized patients" AHJ, 2004; 147: 331-338.

- 2. Chauhan C, Johnson DE, "Germination, emergence, and dormancy of Mimosa pudica" WBM, 2009; 9(1): 38–45.
- Edwin KJ.Diuretics.In:Laurence L Bruton, John S Lazo, Keith L Parker, Goodman and Gilman's The pharmacological basis of therapeutis. 2nd edition. Mc Graw Hill- Medical publishing Division, 2000; 437-467.
- Kokko PJ, "Site and mechanism of action of diuretics" AJM, 1984; 77: 11-17.
- 5. Christie S, Walker AJ, Lewith GT, "Flavanoids-A new direction for the treatment of fluid retention" Phytother Res, 2001; 15: 467-75.
- 6. Navneet BG, Sunil SJ, "Natriuretic and saluretic effects of *Hemidesmus indicus* R. Br. root extracts in rats" IJP, 2011; 43(6): 714-717.
- 7. Nitin SW, Jattappa BK, Mahesh VK, Sameer MJ, Amol DP, "Diuretic activity of leaves of *Balanites roxburghii Linn*." IJPRD, 2010; 2(4): 1-5.
- 8. Kalyanasundar B, Josephin Nerling Rashida G, Chandrasekar M, Devi P, Nagarajan M, "Evaluation of diuretic activity of *Solanum nigrum* Linn" IJRPP, 2011; 1(1): 33-35.
- 9. Ram P Rastogi, Mehrotra BN.Compendium of Indian Medicinal Plants. 1990-94; 5; Central Drug Research Institute; Lucknow, 731.

www.wjpmr.com Vol 7, Issue 6, 2021. ISO 9001;2015 Certified Journal 212

- 10. Zeggwagh NA, Michel JB, Eddouks M, "Acute hypotensie and diuretic activities of *Chamaemelum nobile*" AJPT, 2007; 2(3): 140-45.
- 11. Ganapaty S, Dash GK, Subbaraju T, Suresh P, "Diuretic, and laxative and toxicity studies of *Cocculus hirsutus* aerial parts" Fitoterapia, 2002; 73(1): 28-31.
- 12. Abderahim A, Jaoud EH, Zafar HI, Bocdiaa L, "Acute diuretic effect of continuous intravenous infusion of an aqueous extract of *Coriandrum sativum L*. in anesthetized rats" JE, 2008; 115(1): 89-95.
- 13. Shivalinge GKP, Satish S, Mahesh CM, Vijay K, "Study on the diuretic activity of *Cynodon dactylon* root stalk extract in Albino rats" RJPT, 2009; 2(2): 338-40.
- 14. Jesupillai M, Jasemine S, Palanivelu M, "Diuretic activity of leaves of *Erythrina indica Lam*, IJGP, 2008; 218-19.
- 15. Preethi GP, Gopalakrishnan, Rathnakar UP, Durga P, Vishnu J, "Acute Diuretic Activity of Alcoholic extracts of *Hygrophila auriculata* seeds in normal wistar albino rats" INJPB, 2012; 3(1): 1-9.
- 16. Sarfaraj HM, Nazeer AKFH, Zaheen HM, "Preliminary studies on diuretic effect of *Hygrophilaauriculata* (*Schum*) *Heine* in rats" IJHR, 2009; 2(1): 59-64.
- 17. Kalidas S, Kameswari B, Devi P, Madhumitha B, Meera R, Merlin NJ, "Phytophysico chemical evaluation, antioxidant activities and diuretic activity of leaves of *Lagerstroemia reginae*" AJRC, 2008; 1(2): 83-87.
- 18. Umang P, Mukul K, Vaishali U, Ashok B, "Evaluation of diuretic activity of aqueous and methanolic extracts of *Lepidium sativum Garden Cress (Cruciferae)* in rats" TJPR, 2009; 8(3): 215-19
- Ratnasooriya WD, Jayakody JRAC, "Diuretic activity of hot flower infusion of *Nyctanthes* arbotristis in rats. Boletin Latin-American y del Caribe de Plantas Medicinales y Aromatica" BLACPMA, 2005; 3: 84-87.
- Sangita S, Rashmika P, Rajiv K, "Study of Phytochemical and diuretic potential of methanol and aqueous extracts of aerial parts of *Phyla* nodiflora Linn, IJPP, 2009; 1(1): 85-91.
- 21. Jouad H, Lacaille Dubois MA, Eddouks M, "Chronic diuretic effect of *Spergularia purpurea* in normal rats" JE, 2001; 75(2-3): 219-23.
- Arquimedes GJ, Marcos AB, Emerson L, Botelho L, Maria EAS, Candida ALK, Maria CAM, "Natriuretic and diuretic effects of *Tropaeolum majus* (Tropaeolaceae) in rats" JE, 2009; 122(3): 517-22.
- 23. Benjumea D, Martin Herrera D, Abdula S, Gutierrez Luis J, Quinones W, Cardona D, Torres F, Echeveri F, "Withanolides from *Withania aristata* and their diuretic activity" JE, 2009; 123(2): 351-55.

- 24. Kokate CK, Purohirt AR, Gokhale CB; Pharmacognosy. 27 th edition, Nirali Prakashan, 2004; 344
- 25. Shenoy JP, Pai PG, Shoeb A, Gokul P,Kulkarni A, Kotian MS, "An Evaluation of Diuretic Activity of Morinda itrifolia (Linn)(Noni) Fruit Juice in Normal Rats" INJPP, 2011; 3(2): 19-121.
- 26. Kane SR, Apte VA, Todkar SS, Mohite SK, "Diuretic and laxative activity of ethanolic extract and its fractions of Euphorbia Thymifolia Linn" IJCTR, 2009; 1(2): 149-152.
- 27. Lin CC, Cheng HY, Yeng CM, Lin TC, "Antioxidant and antiviral activity of Euphorbia Thymifolia L" JBS, 2002; 9: 656-664.
- 28. Meera R, Devi P, Muthumani P, Kameswari B, Eswarapriya B, "Evaluation of diuretic activity from *Tylophora indica* leaves extracts" JPSR, 2009; 1(3): 112-16.
- 29. Caceres A, Giron LM, Martinez AM, "Diuretic activity of plants used for the treatment of urinary ailments in Guatemala" JE, 1987; 19: 233–245.