CODEN [USA]: IAJPBB ISSN: 2349-7750

INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES

SJIF Impact Factor: 7.187

https://zenodo.org/records/10830618

https://www.iajps.com/volumes/volume11-february-2024/54-issue-02-february-24/

Available online at: http://www.iajps.com Review Article

A REVIEW ON POLYHERBAL PLATS FOR METABOLIC DISORDER

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Abstract:

Manufacturing of Herbal and Ayurvedic products is simple and good request demand for these products. According to the WHO as much as 80 of the world's population relies on traditional drug. Metabolic disorders refer to a group of health conditions that affect the body's metabolic processes, including the way it processes and utilizes food for energy. PHF use has significant drawbacks, even though ayurvedic PHFs are useful to people. They continue to have difficulties in several areas due to various inevitable drawbacks that impair their capacity and treatment effectiveness. Due to its numerous pharmacological actions, Triphala is a medication that is commonly used in treating several illnesses. One of the most popular Ayurvedic medicines. Triphala is made up of the three drugs. Terminalia chebula Retz (Haritaki), Terminalia bellerica Roxb (Bibhitaki), and Emblica officinalis Gaertn (Amalaki). The pericarps of these medications are usually mixed in exactly equal amounts in the formulations. . DM is a chronic metabolic disorder affecting approximately 5% of the world's population. According to World Health Organisation projections, the diabetic population is likely to 300 millions or more by the year 2025. Here the plants which is used for diabetes mellitus are Wattakaka volubilis (L.f) Stapf. (Asclepiadaceae)Local Name:Perun-kurinjan, Abrus precatorius L.(Fabaceae)Local Name:Kundumani, Trigonella foenum graecum: (fenugreek) Aleo vera and Aleo barbadensis. The above-mentioned plants have been considered for their possible hypoglycemic actions and the researchers have carried out some preliminary investigations. Scientific validation of several Indian plant species has proved the efficacy of the botanicals in reducing the sugar level could be considered as of possible therapeutic value. Thus many different plants have been used individually or in formulations for treatment of diabetes.

Keywords: *WHO, Polyherbal, Plants, Diabetes mellitus,Disorder.*

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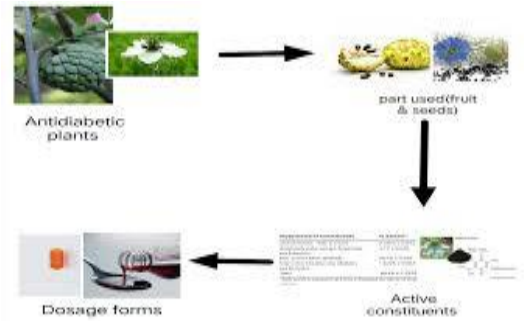
Please cite this article in press Abisha.D et al., ***A Review On Polyherbal Plats For Metabolic Disorder****, Indo Am. J. P. Sci, 2024; 11 (02).*

INTRODUCTION:

Manufacturing of Herbal and Ayurvedic products is simple and good request demand for these products. According to the WHO as much as 80 of the world's population relies on traditional drug. With increased enterprises about rising health care costs, some governments are encouraging the use of indigenous form as of drugs rather than precious medicines. This has been a strong motorist for reanimation of herbal and ayurvedic drug in the country. Traditional treatment with Ayurveda and other herbal drugs etc. is well established and extensively conceded to be safe effective.[1]



Metabolic disorders refer to a group of health conditions that affect the body's metabolic processes, including the way it processes and utilizes food for energy. Examples of metabolic disorders include diabetes, obesity, hyperlipidemia, and metabolic syndrome. According to the World Health Organization (WHO), metabolic disorders are becoming increasingly prevalent globally, with an estimated 1.9 billion adults worldwide being overweight and 650 million being obese.

ADVANTAGES

- Asthma, eczema, premenstrual syndrome, rheumatoid arthritis, migraine, menopausal symptoms, chronic fatigue, and irritable bowel syndrome are just a few of the illnesses that herbalists treat. The best way to use herbal preparation is to follow a skilled professional's instruction.
- It helps in lowering the dose size for each herbal constituent, reducing the risk of any side effect due to high dose of herbs.[3]
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DISADVANTAGE

Herbal medicine may produce negative effect that can range from mild to severe, including:

- Allergic reaction and rashes, Asthma, Headaches, Nausea, Vomiting, Diarrhea.

DRUGS HERBAL HISTORY[2]

Table1: List Artificial Medications Made from Plants

ROLE OF SYNTHETIC MEDICINE	FUNCTION	SOURCE OF PLANTS
Aesculetin	Anti-dysentery	Fraxinus rhynchophylla (Oleaceae)
Digitalis	Cardiac glycoside	Digitalis purported (Plantaginaceae)
Ephedrine	Sympathomimetic	Ephedra sinica (Ephedraceae)
Noscapine	Antitussive	Papaver somniferum (Papaveraceae)

Single-versus-multiple-herbal preparation[3]

Table 2. Example of PHF's that are commercially available

PHF (business)	Herbals	Pharmacological activity
Bihar (India's Ahmedabad-based Rajsha Pharmaceuticals)	Syzygium CuminiMomordica Charantia Embelica	Used for the treatment of Hyperlipidemia
Diabet (Herbal Galenicals, India)	Curcuma longaCoscinium Fenestratum	Antidiabetic

SIGNIFICANT ISSUES WITH PHF USE:

PHF use has significant drawbacks, even though ayurvedic PHFs are useful to people. They continue to have difficulties in several areas due to various inevitable drawbacks that impair their capacity and treatment effectiveness. Patients, Ayurvedic practitioners, the legislation and regulations, as well as the PHFs' sources and manufacture process, are all responsible for these issues.[5]

INTRODUCTION OF THE PLANT

PLANT PROFILE:

Due to its numerous pharmacological actions, Triphala is a medication that is commonly used in treating several illnesses. One of the most popular Ayurvedic medicines. Triphala is made up of the three drugs. Terminalia chebula Retz (Haritaki), Terminalia bellerica Roxb (Bibhitaki), and Emblica officinalis Gaertn (Amalaki). The pericarps of these medications are usually mixed in exactly equal amounts in the formulations[7]

The three senses of humor, or constitutional elements of ayurveda, pitta, and kapha, are balanced rejuvenated by Triphala, which has been called a Tridoshic Rasayana in early ayurvedic texts. As supposed to Emplica officinalis Gaertn, which has chilly energy, Terminalia chebula Rotz and Terminalia bellerica Roxb have warm energy. Because it combines all three, Triphala is balanced and effective as a formula for internal cleaning and detoxification. In Ayurvedic medicine, it is regarded as a significant rasayana and a potent purgative. The Charaka and Shusrutha Samhita, two classic Indian books, describe the recipe for this traditional herbal supplement. The following list includes information on the various characteristics and attributes of the drug's various ingredients.[6]

Triphala: Three types of Triphala have been discussed by Nighantu:

- **Swalpa Triphala**: Draksha, kharjura, and parushaka are the three fruits that makeup Swalpa Triphala.
- **Swadu Triphala**: also known as Madhura Triphala, is a combination of Draksha, Kharjura, and Kasmarya. It is good for the eyes, an aperitif, increases food cravings and helps to reduce erratic fever.
- **Sugandhi Triphala**: This combination of jatiphalam, ela, and lavangam is known as Sugandhi Triphala. It helps with constipation brought on by Kapha and Vata doshas and is astringent and pleasant in vipaka.[8]

Figure no 1.1 Natural Triphala

Pharmacological Activities:

The Rasayana class of potent medications known as triphala is said to support longevity, health, and immunity. It is frequently used to treat chronic ulcers and is an antioxidant-rich herbal formulation.

Therapeutic Uses: It is used as a laxative for chronic constipation, colon cleansing, digestive issues, poor food assimilation, cardiovascular disorders, high blood pressure, lowering serum cholesterol, and poor nutrient absorption

BIBHITAKI

- ***Latin name:*** Terminalia bellerica Roxb.
- ***Family:*** Combretaceae
- ***Traditional name:*** Vibhitaka
- ***Sanskrit synonyms***: Aksha, Kaliphala, Kalidruma, Karnataka
- ***Hindi name:*** Bahera,

Figure no 1.2Bibhitaki plant

Chemical Composition:

The fruit has a 17% tannin content as well as gallo-tannic acid (color matter) and resin. Oil from seeds is a greenish-yellow color.

Therapeutic Uses:

The bark has therapeutic benefits for leucoderma and asthma. The fruit is used for bronchitis, sore throats, biliousness, inflammation, and diseases of the eyes, nose, heart, and urinary bladder. It is also easily digestible, laxative, and anti-helminthic. The oil is excellent. Application about hair. To stop bleeding, the powdered powder is applied to newly cut and wounded skin.

HARITAKI[8]

- ***Latin name:*** Terminalia chebula Linn.
- ***Family***: Combretaceae
- ***Sanskrit synonyms***: Haritaki, Pathya, Abhaya, Avyatha, Vayastha, Haimavati, Shiva

Figure no 1.3 Haritaki

Medicinal Uses:

The fruit is a well-known herbal drug that is frequently added to numerous formulations and is widely used in Indian medicine. It helps with asthma, Sore throat, thirst, vomiting, eye, heart, and bladder conditions.

Diabetes mellitus:

Diabetes mellitus (DM) is a syndrome characterized by chronic hyperglycemic and disturbance of carbohydrate, fat, and protein metabolism associated with absolute or relative deficiencies in insulin secretion and/or insulin action. In various forms of Diabetes mellitus there is a morphological change in the pancreas.There are two types of Diabetes mellitus,Type-1 and Type-2 Diabetes mellitus. In Type-1 Diabetes there is selective destruction of β-cells within islets. DM is a chronic metabolic disorder affecting approximately 5% of the world's population. According to World Health Organisation projections, the diabetic population is likely to 300 millions or more by the year 2025[15].

HERBAL MEDICINE

World Health Organization (WHO) currently encourages, recommends and promotes traditional/herbal remedies in national health care systems because such drugs are easily available at low cost, are comparatively safe and the people have faith in such remedies. WHO defined total health, is not just the absence of disease, but a state of physical, mental, social and spiritual well-being.[8,9]

Natural products are an internal part of human health care system now days because there is now popular concern over toxicity and side effects of modern drugs. There is also a realization that natural drugs are safer and allopathic drugs are often ineffective. Due to these facts over the past ten years a considerable revival of interest in the use of herbal medicine in the world has come up. The WHO has also appreciated the fact that most of the world population depends on traditional medicine and therefore WHO has evolved guidelines to support the member states in their efforts to formulate remedies on traditional medicine and to study their potential usefulness, safety and efficacy.[7]

Problems with Modern (Allopathic) Drugs[9]:

1) High cost and long time taken in development of new drug.
2) Toxicity – A new branch of medicine is termed iatrogenic diseases.
3) Non-renewable source of basic raw materials.

Advantages of Plant-based Drugs:

1) Long history of use and better patient tolerance as well as public acceptance.
2) Renewable source.
3) Cultivation and processing environmental friendly.

Herbal Drugs with antidiabetic properties[10]

Wattakaka volubilis (L.f) Stapf. (Asclepiadaceae)

Local Name: Perun-kurinjan

The plant is a fleshy and large climber found throughout the plains with papery leaves. Leaf powder is taken orally along with cow's milk. Dosage:50-75 ml of mixture is taken twice a after food for 90 days

Figure 1.4 : Perun Kurinjan

Abrus precatorius L.(Fabaceae)Local Name: Kundumani

The plant is a climber commonly known as Wild Liquorice and found through the plains of India. The mixture is shade dried and ground into powder and taken orally along with cow's milk. Dosage: About 50 ml of mixture is taken twice a day before food for 120 days.

Fig 1.5 : kundumani

Trigonella foenum graecum: (fenugreek)

It is found all over India and the fenugreek seeds are usually used as one of the major constituents of India spices. 4-hydroxyleucine, a novel amino acid from fenugreek seeds increased glucose stimulated insulin release by isolated islet cells in both rats and humans. Oral administration of 2 and 8 g/kg of plant extract

produced dose dependent decrease in the blood glucose levels in both normal as well as diabetic rats. Administration of fenugreek seeds also improved glucose metabolism and normalized creatinine kinase activity in heart, skeletal muscle and liver of diabetic rats[13].

Fig 1.6 : Fenugreek

Aloe vera and Aloe barbadensis

Aloe, a popular houseplant, has a long history as a multipurpose folk remedy. The plant can be separated into two basic products: gel and latex. Aloe vera gel is the leaf pulp or mucilage, aleolatex, commonly referred to as "aloe juice," is a bitter yellow exudate from the pericyclic tubules just beneath the outer skin of the leaves. This action of Aloe vera and its bitter principle is through stimulation of synthesis and/or release of insulin from pancreatic beta cells. This plant also has an anti-inflammatory activity in a dose dependent manner and improves wound healing in diabetes mice[11,12].

Figure 1.7 : Aleo Vera

CONCLUSION:

Herbal therapy for diabetes has been followed all over the World successfully. Herbals are used to manage Type 1 and Type 11 diabetes and their complications. For this, therapies developed along the principles of western medicine (allopathic) are often limited in efficacy, carry the risk of adverse effects, and are often too costly, especially for the developing world. The above-mentioned plants have been considered for their possible hypoglycemic actions and the researchers have carried out some preliminary investigations. Scientific validation of several Indian plant species has proved the efficacy of the botanicals in reducing the sugar level could be considered as of possible therapeutic value.

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