International Journal of Pharmaceutical Research and Applications
Volume 9, Issue 2 Mar-Apr 2024, pp: 724-728 www.ijprajournal.com ISSN: 2249-7781

A Review on Study of PolyHerbal Nutraceutical Formulation

Neha Rambhade*[1], Sejal Ambhore[2], Praful Hire[3]
*[1,2] Student, School of Pharmacy, G H Raisoni University Saikheda, Sausar, Chhindwara, M.P.
*[3] Assistant Professor, School of Pharmacy, G H Raisoni University Saikheda, Sausar, Chhindwara, M.P.

Submitted: 25-03-2024 Accepted: 05-04-2024

ABSTRACT:
Now a days, Herbal Formulation are mostly used for their less adverse effect. Herbal plants provide immune-boosting properties. Early infancy nutrition has a significant impact on a child's overall development. Even though kids eat a healthy diet, they frequently experience deficiency diseases. This is typically the result of carelessness or ignorance about the sources of important macro- and micronutrients. The polyherbal formulation described in Ayurveda have been the basic of treatment of various human disease. Selection of scientific and systematic approach for the evaluation of herbal formulation based on their use in the traditional systems of medicine forms the basis for an ideal approach in the development of new drugs from plants. Because of its many medical and therapeutic uses, polyherbal formulations have been utilized all over the world. Herb-herb combination or polyherbal therapy are other names for it. Nutraceutical and Herbal formulation are most famous in the overall world. Herbal formulation has less side-effects. Since few years herbal formulation are popular. The majority of individuals these days favour herbal formulations. As plant extract powders are rich in minerals, vitamins, and other nutrients, they are typically used as supplements. Herbal extracts are typically utilized as powders and capsules, but formulators find it difficult to formulate these products because to their high dosage, harsh taste, extremely poor flow-ability, and low compressibility.

KEYWORDS: Ayurveda, Nutraceuticals, Polyherbal, Herbal Formulation, Immunity.

I. INTRODUCTION:

The process of preparing herbal medicine by combining multiple herbs is known as Polyherbal Formulation (PHF). The idea is present in Ayurvedic and other traditional medical systems, where treating disease may involve the administration of several plants in a specific ratio. Numerous diseases, such as diabetes, constipation, diarrhea, and others, are treated with it in these systems. The idea of polyherbalism in Ayurveda has been emphasized by the 1300 CE "Sarangdhar Samhita" book of Ayurveda. Plant formulations and mixed plant extracts are preferred above single plant extracts in the conventional Indian medical system. There are other dosage forms made from Ayurvedic herbal formulations, however PHF is used in the majority of them. Polyherbalism provides certain benefits that are not available because of its synergism.

The PolyHerbal formulation consists of two or more herbs that have various phytoconstituents and similar or different therapeutic potential. These herbs work together to provide favorable effects when it comes to managing human nutrition. The extraordinary therapeutic range of polyherbal formulations—that is, their ability to be safe at high doses while yet producing few negative effects when used excessively—has led to their enormous appeal.

A few Ayurvedic herb combinations ought to be mentioned here: the warming and mucous-reducing properties of ginger when combined with black pepper and long pepper are enhanced; the bitter and cold properties of bitter neem and ginger are combined to counteract any severe effects. Traditional remedies for bloating caused by poor digestion include cumin, black pepper, and asafetida; guduchi and turmeric combined strengthen the immune system.

When creating a polyherbal mixture, it is important to keep in mind that certain plants are regarded as incompatible (viruddha) and should not be consumed together. These incompatibilities could result from functional, energetic, or quantitative incompatibilities.

Nutraceutical are known to provide health benefits including the prevention or treatment of disease. Nutraceutical are used for those whose have undernourished & malnourished. Nutraceuticals are nutrition packed supplements that may help improve

International Journal of Pharmaceutical Research and Applications
Volume 9, Issue 2 Mar-Apr 2024, pp: 724-728 www.ijprajournal.com ISSN: 2249-7781

health, prevent disease & support the structure or function of the body.

I. Moringa: -

Scientific Name: - Moringa Oleifera Lam
Family: - Moringaceae
Alternative Name: - Guilandina Moringa L., Hyperanthera Moringa (L.) Vahl
Species: -M. Oleifera
Other's name: -Munga, Drumstick, Horseradish

For many years, M. oleifera has been employed in traditional, medical, and industrial settings. The plant's parts are consumed as vegetables and added to a regular diet to help treat a number of illnesses. It has been discovered that moringa leaves can be eaten to fight malnutrition. M. oleifera is a plant that has antibacterial, antiviral, diuretic, antipyretic, and anti-inflammatory properties. The plant Moringa has immune-modulatory properties that may guard against illnesses in the future. The upshot is that co-infection in the current epidemic can be treated with Ayurvedic therapy. The immunomodulator niaziminin B is found in moringa oleifera leaves. The compounds in Moringa oleifera with the best binding energies against MPro and RdRp were kaempferol, quercetin, morphine, and pterygospermin.

- **Description: -**

M. oleifera is a deciduous tree with a trunk diameter of 46 cm (18 in) and a height of 10–12 m (33–39 ft). It grows quickly. A thick layer of cork surrounds the whitish-gray bark. The hairy, purple or greenish-white bark of young shoots. The leaves of the tree grow into tripinnate leaves, which are fluffy and have an open crown with drooping, frail limbs.

Five uneven, faintly veined, yellowish-white petals encircle the fragrant, hermaphrodite flowers. The flowers are about 2 cm (3⁄4 in) broad and 1–1.5 cm (3⁄8–5⁄8 in) long. Their flower clusters can spread or droop, and they grow on slender, hairy stalks that are 10–25 cm (4–10 in) long.

Within the first six months of planting, flowers appear. Only once a year, in late spring or early summer (May–June in the Northern Hemisphere and October–December in the Southern Hemisphere) does flowering take place in seasonally chilly places. In areas with consistent seasonal temperatures and rainfall, flowering may occur twice a year or even year-round.

The fruit is a brown, three-sided, hanging capsule that measures 20–45 cm (8–17+1⁄2 in) and contains dark brown, spherical seeds that have a diameter of about 1 centimetre. The seeds are spread by wind and water and have three pale, papery wings.

In cultivation, it is frequently trimmed back every year to 1-2 m (3–6 ft) and then allowed to grow back so that the pods and leaves are still reachable.

- **Morphology: -**

The small, quickly growing Moringa oleifera tree can be either deciduous or evergreen, reaching heights of 10 or 12 meters. It features feathery foliage of tripinnate leaves, white gray bark, and spreading, weak branches.

Leaves

Up to 45 cm long, the leaves are bipinnate or frequently tripinnate. The leaflets are green, hairy, and nearly hairless on the upper side. These leaves, which are compound leaves with 1-2 cm long leaflets, are green and hairy on the twigs.

Flowers

The bisexual, fragrant, yellowish white flowers are borne on hairy stalks that spread or droop in axillary panicles that range in length from 10 to 25 cm. The individual blooms have dimensions of roughly 0.7 to 1 cm in length and 2 cm in width. They include five uneven, yellowish-white, spathulate petals with thin veins, five stamens, including five tiny, sterile filaments, and a pistil made up of a slender style and one-celled ovary.

International Journal of Pharmaceutical Research and Applications
Volume 9, Issue 2 Mar-Apr 2024, pp: 724-728 www.ijprajournal.com ISSN: 2249-7781

Fruits

Fruits are trilobed capsules, sometimes known as pods. They are pendulous, brown, triangular, and split into three halves lengthwise when dry. Fruits range in length from 30 to 120 cm and width from 1.8 to 30 cm. Production of fruits occurs primarily in March and April. When a fruit is developing, it contains about 26 seeds. When pods reach maturity, their green hue changes to brown.

Seeds

The seeds have a circular 1cm diameter and a brownish, semi-permeable seed shell with three papery wings. If the kernels are not very viable, the hulls can turn white. Viable seeds can sprout in two weeks, and a tree can yield between 15,000 and 25,000 seeds annually. A seed's average weight is 0.3 grams.

- **Taxonomical Classification: -**

Kingdom	Plantae
Sub kingdom	Tracheobionta
Super division	Spermatophyta
Division	Magnoliophyta
Class	Magnoliopsida
Sub class	Dileniidae
Order	Capparales
Family	Moringceae
Genus	Moringa
Species	Oleifera

- **Uses: -**

Moringa has the ability to promote sustainable landcare, increase food security, improve nutrition, and encourage rural development in impoverished nations. It can be utilized as a natural anthelmintic, adjuvant, micronutrient liquid, and cattle fodder.

Malnutrition has been addressed by moringa plants, particularly in young children and nursing moms. Because moringa grows well in arid and semiarid climates, it can be a year-round, nutrient-dense food source in many different parts of the world. Approximately 140 global groups have started cultivating moringa Moringa has the ability to promote sustainable landcare, increase food security, improve nutrition, and encourage rural development in impoverished nations. It can be utilized as a natural anthelmintic, adjuvant, micronutrient liquid, and cattle fodder.

Malnutrition has been addressed by moringa plants, particularly in young children and nursing moms. Because moringa grows well in arid and semiarid climates, it can be a year-round, nutrient-dense food source in many different parts of the world. Approximately 140 global groups have started cultivating moringa.

II. Fenugreek: -

Scientific name: - Trigonella Foenum Graecum
Family: - Fabaceae / Leguminaceae
Synonyms: - Fenugreek seeds, Greek clover, Methika
Species: - T. Foenum Graecum
Others Name: - Methi dana,

Fenugreek is a diaphoretic that can induce sweating and aid in body detoxification. It also has a positive effect on blood purification. because of the strong fenugreek scent, which is detected on the skin and in perspiration beneath the arms.Although fenugreek's primary function is to irrigate cells with nutrients and eliminate harmful wastes, dead cells, and stuck proteins from the body, it is also well-known for its lymphatic cleansing properties. Anywhere in the body, a blockage in the lymphatic system can result in inadequate fluid circulation, fluid retention, discomfort, low energy, and illness. Fenugreek helps to eliminate congestion, which helps to maintain mucus conditions in the body, particularly in the lungs.

International Journal of Pharmaceutical Research and Applications
Volume 9, Issue 2 Mar-Apr 2024, pp: 724-728 www.ijprajournal.com ISSN: 2249-7781

- **Description: -**

Fenugreek is an annual legume, diploid (2n=16) plant with no aneuploidy. It is an aromatic annual that is erect and morphologically similar to big clover. The roots have a huge, finger-like shape, while the stem is tall and cylindrical (30–60 cm long) and pink in color. The compound leaves of fenugreek are pinnate, trifoliate, and long stalked. The leaflets are obovate to oblanceolate, with triangular, toothed stipules. Hermaphrodite and insect-pollinated, it blooms with white to yellowish white, axillary, sessile flowers. Five petals on flowers are called the flag, wing, and keel petals. The pollen grains range in shape from oval to round, and the ovary is deep green and glaucous.The brown to yellowish-brown, ~15 cm long, two to eight pods are generated by fenugreek flowers. Each pod contains 10-20 seeds per pod; seeds are small (~5 mm long), hard, smooth, dull yellow to brownish yellow in color.

The first trifoliate leaf develops 5-8 days after germination, whereas fenugreek takes5-10 days to germinate. This plant grows quickly and can be found growing on dry grasslands, farmed or uncultivated terrain, hillsides, planes, and field borders. However, it does need some sunlight to thrive. It takes fenugreek four to seven months to mature. Midsummer (June to August) is when the flowers bloom, and late summer (August toSeptember) is when the seeds ripen. It can withstand drought and thrives in tropicalclimates with moderate winters and pleasant summers; however, the temperature affects how the leaves and flowers develop.

- **Morphology: -**

Seeds

i. The seeds have dimensions of around 4-6 mm in length, 2-3 mm in width, and 2 mm in thickness.
ii. They are tough and have a yellowish-brown hue.
iii. Unusually rhomboidal in shape, flattened, and divided by two uneven lobes by a deep furrow.
iv. Contained in long, narrow, sickle-shaped pods, they range in number from ten to twenty.
v. An unusual and bitter taste.
vi. Spicy scent.

Leaves

i. Up to five-centimetre-long stalked leaves.
ii. Triangular and lanceolate stipulates.
iii. A 2.5 cm longitudinal leaflet
iv. Shape: obovate to oblanceolate.

- **Taxonomical Classification: -**

Kingdom	Plantae
Division	Magnoliophyta
Class	Magnoliopsida
Order	Fabales or Leguminales
Family	Fabaceae
Sun-family	Trifoliae
Genus	Trigonella
Sub-genus	Foenumgraecum
Species	T. Foenum-graecum

- **Uses: -**

Fenugreek has been used to treat a variety of illnesses, including hay fever, tuberculosis, emphysema, influenza, asthma, catarrh, constipation, sinusitis, pleurisy, pneumonia, and sore throats.

a. Lactation aid
b. Immunological activity
c. Hypoglycemic effect
d. Hypocholesterolemia effect
e. Antioxidant activity
f. Anticancer effect
g. Antibacterial and antifungal effect
h. Aids in digestion

II. CONCLUSION: -

The focus of this Review on Study of Polyherbal Nutraceuticals Formulation, is improving the immunity. This formulation for malnourished children and people who needs to increase their immunity. There is various formulation in market but we try to make an herbal formulation with less side effects on daily basis. In this formulation we are using the combination of Moringa Oleifera and Fenugreek for their better immune response.

REFERENCES: -

[1]. Parasuraman, S., Thing, G. S., &Dhanaraj, S. A. (2014). Polyherbal formulation: Concept of ayurveda. Pharmacognosy reviews, 8(16), 73–80. https://doi.org/10.4103/0973-7847.134229.

[2]. "Formulation And Evaluation Of Nutraceutical Tablet Of Polyherbal Drugs By Wet Granulation". (2023). Journal of Pharmaceutical Negative Results, 359-368. https://doi.org/10.47750/pnr.2023.14.02.47

[3]. Seema brar*, Alok Sharma, (2021) "A review on medicinal herbs as immunity booster" Pharmaspire; 13(1): 15-20.
[4]. Gawali Vikas B, Bhalsing Mahesh, Dalvi Nilam B, Tarkasband Yogita S, "Development and Evaluation of Polyherbal powder formulation as energy booster", Journal of Pharmacognosy and Phytochemistry 2018; 7(3) :1576-1580.
[5]. Preeti Sharma, Pradeep Kumar, Rachna Sharma, Gaurav Gupta, Anuj Chaudhary, "Immunomodulators: Role of Medicinal plants in immune system". Natonal Journal of Physiology, Pharmacy & Pharmacognosy.
[6]. Dabas, Anchal& Yadav, Parul& Geetanjali, & Singh, Ram. (2024). Role of Herbal Medicine in Boosting Immune System. 10.1007/978-981-99-7703-1_19.
[7]. Paikra, B. K., Dhongade, H. K. J., &Gidwani, B. (2017). Phytochemistry and Pharmacology of Moringa oleifera Lam. Journal ofpharmacopuncture, 20(3), 194–200. https://doi.org/10.3831/KPI.2017.20.022
[8]. Foidl, N. &Makkar, Harinder& Becker, K. (2001). The potential of Moringa oleifera for agricultural and industrial uses Moringa oleifera Webpage. The Potential of Moringa Oleifera for Agricultural and Industrial Uses, The Miracle Tree: The Multi Uses of Moringa. 45-76.
[9]. Jyothi, Divya&Koland, Marina & Priya, Sneh& James, Jainey. (2017). Formulation of Herbal Capsule Containing Trigonella Foenum-Graecum Seed Extract for the Treatment of Diabetes. Journal of Young Pharmacists. 9. 352-356. 10.5530/jyp.2017.9.70.
[10]. Sajad Ahmad Wani, Pradyuman Kumar. (2018). "Fenugreek": A Review on its nutaceuticals properties and utilization in various food products". Journal of the Saudi Society of Agricultural Sciences.17, 97-106.