Formulation And Evaluation of Polyherbal Tablet

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Abstract

Withania somnifera is a perennial herb native to India and belongs to the Solanaceae family, commonly known as "Ashwagandha", Asgander, Winter Cherry and Indian Ginseng. It is one of the most beneficial herbs and is widely used as an anti-inflammatory, anti-inflammatory, anti-tumor, immunomodulator, anti-anxiety, antioxidant, sedative and aphrodisiac. The roots are reported to contain natural bioactive alkaloids, flavonoids and phenolic compounds. This study included phytochemical tests to estimate the presence of carbohydrates, glycosides, flavonoids, tannins, phytosterols and phenolic compounds. Holy basil, also known as tulsi or holy basil, is a fragrant herb belonging to the Lamiaceae family. It is widely used as medicine in the treatment of many diseases. The aim of this study is to identify different phytochemical components of Tulsi leaves. Dry Tulsi powder was placed in the thimble of Soxhlet extractor and experiments were conducted with methanol, ethanol and distilled water.

Keywords: Antistress, Cognitive, adaptogenic, stress, enhancement

Introduction:-

It is obtained from different products such as herbs, extracts and decoctions and is used to help heal wounds and various diseases. [1] Plants are tools used to prevent diseases and protect human health. The difference between medicinal plants is increasing day by day. [2,3] Today, there is dependence on herbal formulas and herbal products. The beauty of herbal products is that they can be used to treat many conditions such as fever, allergies, anxiety, mental and nervous disorders with little or no side effects. These herbal products are effective in maintaining biochemical balance in the body. Biochemicals affected by herbal products include serotonin, GABA, 5HT, etc. is available. When these medicinal plants are processed and turned into prescriptions, they are called medicinal plants such as capsules, syrups, powders, ointments, creams, tablets and soaps. Formulations and other details are often referred to reference books such as the British Pharmacopoeia, the Book of Pharmaceutical Compounding and the Herbal Pharmacopoeia. Ayurvedic Formulas and Herbal Formulas are important books in the formulation of good/ayurvedic products. Multi-herb tablets often contain a combination of herbs or herbs combined to achieve specific health benefits or address various nutritional problems. They are often used in traditional medicine and other medicines. [4]

Herb Herb Combination:-Herbal combinations (also known as polyherbal treatments) have been used in traditional Chinese medicine for thousands of years, but scientific evidence for their therapeutic effects is lacking. Most of the time, a combination of drugs is more effective than a single drug in treating the disease. The concept of polypharmacy is well established in Western medicine and has been highly successful for decades. In recent years, the use of combined drugs in the treatment of cancer and infectious diseases has brought new hope to patients. Natural herbs and herbal ingredients used in some formulas have been shown to have potential interactions. These include mutual support, mutual restriction, and conflict. In the

Ayurvedic system of medicine, polyherbal plants are often used to treat various ailments. Bharangyadi herbal compound is a mixture of Clerodendrum serratum, Hedychium spicatum and Inula racemose. IndukanthaGhritha (IG) is a versatile herb containing 17 botanical ingredients that is widely used by Ayurvedic practitioners to treat various ailments. Unani System of Medicine is also internationally recognized due to the therapeutic effectiveness of its formula. Although the drug Unani has been used for a long time, there is little evidence of its safety and effectiveness. Lack of evaluation slows the development of regulations and policies. Majoon Suranjan (MS) is a variety of herbs such as asparagus, fennel, capers, terminalia, cinnamon, celery, ginger, swirl, colchicum, cassia, black pepper, coriander, damask rose, cow tomato, pyrethrum, adenophora, mullein and castor. The oil is used to treat rheumatoid arthritis (RA) in the Unani system of medicine. A complete experiment was conducted to prepare a combination using Alba vine leaf extract, Cassia bark extract, Zanthoxylum bungeanum bark extract and Zanthoxylum bungeanum leaf extract and in vitro tests were also conducted. [5]

The combination of herbs in polyherbal formulations can vary widely, and different combinations serve different purposes based on the intended health benefits. Here are a few examples of herb combinations commonly found in polyherbal formulations:

1)Digestive Health Blend:
- Peppermint (Mentha piperita)
- Ginger (Zingiber officinale)
- Fennel (Foeniculum vulgare)

2)Immune Support Blend:
- Echinacea (Echinacea purpurea)
- Elderberry (Sambucus nigra)
- Astragalus (Astragalus membranaceus)

3)Stress Relief Blend:
- Ashwagandha (Withaniasomnifera)
- Rhodiola (Rhodiola rosea)
- Holy Basil (Ocimum sanctum)

4)Joint Support Blend:
- Turmeric (Curcuma longa)
- Boswellia (Boswellia serrata)
- Ginger (Zingiber officinale)

5) Sleep Aid Blend:
- Valerian (Valeriana officinalis)
- Passionflower (Passiflora incarnata)
- Chamomile (Matricaria chamomilla)

6)Cardiovascular Health Blend:
- Hawthorn (Crataegus spp.)
- Garlic (Allium sativum)
- Ginkgo Biloba (Ginkgo biloba)

It is important to remember that the effectiveness and safety of various herbal combinations may vary and individual opinions may vary. If you are considering using a combination of medications to solve a health problem, it is recommended that you consult a doctor or pharmacist to ensure that it suits your needs and will not interfere with the medication you are taking. Additionally, the quality and origin of the herbs used in the formulation play an important role in determining the overall effectiveness of various herbs. [6]

Ashwagandha Drug Profile: -Ashwagandha (Withaniasomnifera) is an adaptogenic herb that has been used for centuries in traditional Ayurvedic medicine. It is also known as Indian ginseng or winter cherry. Here is a brief drug profile of Ashwagandha:

Fig no. 1 Ashwagandha Powder

1. Medicinal Uses:

Adaptogen: Ashwagandha is classified as an adaptogen, which means it helps the body adapt to stress and maintain balance.

Relief from Stress: Commonly used to help manage stress and anxiety. Cognitive function: Some studies suggest that Ashwagandha may be neuroprotective and improve cognitive function.

Immune Support: It is believed to have immunomodulatory properties that will help support the immune system.

Anti-Inflammatory: Ashwagandha may have anti-inflammatory properties, which may be beneficial for conditions associated with inflammation.

2. Active ingredients:

Withanolides: These bioactive ingredients are believed to contribute to the medicinal properties of Ashwagandha. They have anti-inflammatory and adaptogenic effects.

3. Dosage Form:

Ashwagandha is available in many forms, including capsules, powder, and liquid extract. Dosage may vary, but a common recommendation is 300 mg to 600 mg of the process extract containing approximately 5% withanolide.

4. Safety and side effects:

Generally considered safe for most people when used correctly. Minor side effects may include diarrhea. People with certain medical conditions or taking medications should consult a doctor before using Ashwagandha.

5. Interactions:

Ashwagandha may interact with medications, especially sedatives. Caution is advised when used with medications that treat anxiety, sleep disorders, or other CNS depressants.

6. Pregnancy and breast-feeding:

Pregnant or breast-feeding women should consult their doctor before using Ashwagandha.

7. Quality Notes:

The quality of Ashwagandha products may vary. It is important to choose reputable brands and products that have been tested for purity and potency. As with all herbal supplements, individual reactions may vary. It is

recommended to consult a doctor before incorporating Ashwagandha into your health, especially if you have a pre-existing condition or are taking medication. [7,8]

Tulsi Drug Profile

Tulsi, also known as Holy Basil, is a sacred herb in Hinduism and is widely used in traditional Ayurvedic medicine. It has a long history of medicinal use and is known for its adaptogenic properties. Here is a brief drug profile of Tulsi:

1. Botanical Information:

Scientific Name: Ocimum sanctum or Ocimumtenuiflorum

Common Names: Tulsi, Holy Basil

2. Medicinal Uses:

Adaptogens: Tusi is classified as an adaptogenic herb that helps the body adapt to stress and maintain balance.

Antioxidants: Contains antioxidants that help protect cells from damage caused by free radicals.

Anti-Inflammatory: Tutsi has anti-inflammatory properties that may be beneficial for many ailments.

Antibacterial: It has been proven to provide antibacterial protection against bacteria, viruses and fungi. Health Effects: Tulsi is traditionally used for respiratory infections and may help relieve coughs and colds.

Fig No. 2 Tulsi Powder

3. Active ingredients:

Ociciside A and B: These are triterpene compounds found in Tulsi that have adaptogenic properties.

Eugenol: An essential oil component with antibacterial and anti-inflammatory properties.

Ursolic acid: Another triterpenoid with antioxidant and antioxidant effects. Anti-inflammatory effect.

4. Dosage and Forms:

Tulsi is available in many health forms, including fresh leaves, dried leaves for tea, extracts, and supplements. Dosage may vary, but recommendations include drinking Tulsi tea or taking Tulsi supplements as directed on the product.

5. Safety and side effects:

Tulsi is generally considered safe when taken in moderation. Some people may experience minor side effects such as stomach upset or allergic reactions. Pregnant women or the elderly and people with certain medical conditions should consult a doctor before using Tulsi.

6. Interactions:

Tulsi may interact with some medications, and caution is advised when combining it with medications that affect blood clotting or diabetes. It is important to consult your doctor if you are taking medication or have an underlying condition.

7. Medicinal Uses:

In Ayurveda, tulsi is used to treat many ailments, including anxiety, respiratory problems, skin diseases, and more. It is also used in Hindu religion and spirituality. As with all herbal supplements, individual reactions may vary. It is recommended to consult a doctor before using Tulsi, especially if you have underlying health problems or are taking medications. It is also important to buy tulsi from reputable sources to ensure product quality and safety. [7,8,9]

Methods And Materials:-

Materials:-

Ashwagandha powder and tulsipowder are purchased from local market and authenticated in SIOP, laboratory. Lactose, starch, magnesium sterate, talc, ethanol are of analytical grade.

Method of Preparation:-

Wet Granulation Method:-

1. Dilute and mix;
2. Measure and mix active ingredients and packaging (disintegrants will be added at this time). Wet granulation is prepared by adding a binder to promote adhesion of the powder to form a wet dough-like substance.
3. Moist material is tested in pellet or granule form: pressed by hand or with special equipment (6-8 mesh) and extruded through holes in the equipment to prepare granules.
4. After the granules are spread on shallow paper, they are dried continuously in the oven.
5. Dry Sifting: After the product dries, the same material is passed through a sieve smaller than the size of the wet part and balanced in the mold cavity.
6. Mixing with other ingredients: Lubricants and lubricants are added to the granules or mixed with the granules by mixing on top of the expanded granules. Colorants or disintegrants and dry binders are also added at this step.
7. Tablet Compression: In the final stage, the tablet is fed into the mold cavity and then compressed. [10,11]

Formulation Table:-

Sr No.	Ingredients	F1	F2	F3
1	Ashwagandha	75mg	75mg	75mg
2	Tulsi	75mg	75mg	75mg
3	Lactose	-	10mg	20mg
4	Starch	40mg	30mg	20mg
5	Magnesium sterate	5mg	5mg	5mg
6	Talc	5mg	5mg	5mg

Evaluation Test:-

1)Weight Variation:-

Sr No.	F1 Weight(mg)	F2 Weight (mg)	F3 Weight (mg)
1	190	190	180
2	200	200	200
3	180	170	210
4	180	180	170
5	190	200	180
6	170	180	200
7	210	230	180

8	190	200	170
9	230	210	180
10	210	220	200
11	200	210	170
12	180	230	220
13	170	190	190
14	210	200	180
15	170	220	170
16	180	210	180
17	220	190	180
18	190	210	160
19	170	200	200
20	200	190	230
21	**Mean = 192 mg**	**Mean =201.5 mg**	**Mean = 187.5 mg**

2)Disintegration:-

The degradation time was determined in 900 ml of saliva (pH 5.8). According to USP method 24 at 37 ± 5°C without using discs. The disintegration time of six tablets was recorded and from this the average weight was calculated and the disintegration time of all tablets was recorded in seconds. [12,13]

3) Hardness Test:-

Sr No.	F1 (kg / cm^2)	F2 (kg / cm^2)	F3 (kg / cm^2)
1	5	5.5	6
2	4.2	4.9	4
3	4	5	4.2
4	3.7	5.2	3.8
5	**Avg. = 4.225kg / cm^2**	**Avg. = 5.15kg / cm^2**	**Avg. = 4.5kg / cm^2**

4) Friability:-

It was determined by taking 10 tablets from each breast with the help of Roche Fribrilator. Ten pre-weighed tablets were spun at 25 rpm for 4 min. Use a 60-mesh sieve to remove fine particles and reweigh the tablets to calculate the percentage loss. [14,15]

5)Dissolution:-

The separation test measures the quantity and quantity of the dosage form (such as tablets) as the drug. Dissolution of drugs is important for their bioavailability and therapeutic effects. Dissolution and release are terms used interchangeably. [16,17] The general separation method is to place a liquid called dissolution medium into a container of the dissolution unit. The environment can range from deionized water that has been degassed or sonicated, to pH-adjusted chemically prepared solutions, to media prepared with surfactants. [18]

Conclusion:-

The combination of Ashwagandha (Withaniasomnifera) and Tulsi (Ocimumsainttum) in various forms creates a synergistic effect. Known for their adaptogenic properties, these herbs complement each other to improve stress and overall health. Ashwagandha is known for its stress-relieving properties, helping the

body adapt to various stressors and promoting a sense of harmony. Traditionally used in Ayurvedic medicine for its calming effects on the nervous system, tulsi complements the stress-relieving effects of ashwagandha. This combination not only relieves stress symptoms, but also supports the body's ability to respond better to stress, thus reducing the negative effects of chronic stress on the body and mind. In addition, many herbs can aid in stress reduction and health, as well as providing additional benefits such as anti-inflammatory, anti-oxidant, mood enhancement, digestive health rice, adaptogen support, and wisdom.

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