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Review Article

Review on Herbal Monograph Preparation

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ABSTRACT

Pharmacopoeia is a publication that sets standards for medicine preparation, quality, and testing. It provides guidelines for Active Pharmaceutical Ingredients (APIs) and products, including herbal medicines. Pharmacopoeias, such as British, Indian, and Japanese, are essential resources for pharmaceutical manufacturing, testing, and research. They contain monographs with detailed information on identification, testing, and quality standards. Herbal monographs specifically focus on plant medicines, covering description, usage, components, and safety information. Pharmacopoeias promote global standardization, regulatory compliance, and safe medicine use.

INTRODUCTION

Herbal medicine, also known as herbalism, is the use of plants as medicines and the research into their applications. With a history dating back over 4,000 years, herbal medicine has been used by various cultures, including Unani Hakims, Indian Vaid, and European and Mediterranean cultures. Medicinal plants have been a vital part of traditional medicine, with different parts of plants being used to treat various health problems. The use of herbal medicine continues to be an important aspect of healthcare, with many plants showing potential for therapeutic applications. Medicinal plants have been used for thousands of years in various cultures, including Ayurvedic,

Unani, and Chinese medicine. These plants are a rich source of medicines and have been used to treat a wide range of diseases and health problems. With the growing interest in natural and traditional medicine, the use of herbal medicine is becoming increasingly popular worldwide. India is home to a vast array of medicinal plants, and many of these plants have been documented and researched for their therapeutic properties. The use of medicinal plants offers a promising approach to healthcare, with many plants showing potential for the treatment of various diseases and conditions. (1) Medicinal plants have become a primary source of medicine, particularly in traditional medicine practices. Traditional medicine doctors utilize these plants to treat a wide range of health issues,

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including digestive problems, cardiovascular conditions, reproductive health issues, and respiratory diseases. The use of medicinal plants offers a natural and holistic approach to healthcare, providing effective solutions for various ailments

Importance and medicinal value of some medicinal plant-

- 1. Immunity boosters:** Certain herbs can increase immunity, reducing the risk of illnesses like fever.
- 2. Antibiotics:** Plants like turmeric have antimicrobial properties, preventing the growth of bacteria, viruses, and other microorganisms.
- 3. Anti-inflammatory:** Herbs like safflower, black pepper, and sandalwood can reduce fever and inflammation. (2)

Medicinal Uses of Herbs

- 1. Wound healing:** Turmeric is used to heal cuts and wounds.
- 2. Digestive health:** Certain herbs regulate stomach acid production, promoting healthy digestion.
- 3. Astringents:** Cinnamon and sandalwood can stop bleeding and remove excess mucus.

Fragrant and Flavourful Herbs (3)

- 1. Cardamom:** Adds flavor to food and drinks.
- 2. Coriander:** Enhances flavor and aroma.
- 3. Peppermint:** Adds a refreshing flavor and scent.

Antiseptic Herbs

- 1. Aloe vera:** Known for its soothing and antiseptic properties.
- 2. Sandalwood:** Used as an antiseptic and anti-inflammatory agent.

- 3. Turmeric:** Exhibits antiseptic and antimicrobial properties. (4)

Benefits of Growing Medicinal Herbs

- 1. Easy to grow:** Many medicinal herbs are easy to cultivate.
- 2. Beautiful and fragrant:** Herbs like basil and rosemary are attractive and fragrant.
- 3. Attracts pollinators:** Herbs like basil and lemon balm attract bees and butterflies. (5)

History of Medicinal Plants in Indian Pharmacopoeia (IP)

Evolution of IP

- 1. First publication:** Bengal Pharmacopoeia (1844) focused on domestic medications.
- 2. First Indian Pharmacopoeia:** Published in 1868, included native medicines and those listed in the British Pharmacopoeia.
- 3. Indian Pharmacopoeia Contents (1946):** Became the Indian supplement to the British Pharmacopoeia. (6)

Development of Herbal Medicine Standards

- 1. 1966 IP:** Included criteria for vegetable pharmaceuticals and monographs for 10 commonly used drugs.
- 2. New monographs:** Added Jatamanshi, Rasna, and Vidang in 1996.
- 3. 2005 IP Supplement:** Included 10 new herbs, such as ashwagandha, bacopa, and turmeric.

Recent Advances

- 1. 2007 IP:** Contained 58 monographs, including 23 new ones, and chapters on medicinal plants.
- 2. 2010 IP:** Included new monographs, such as Bhuiamla dry extract and Gudmar dry extract.



3. 2012 IP: Added four new monographs, including Mandukaparni dry extract.

Significance

1. Regulatory framework: IP provides a comprehensive framework for herbal medicines.

2. Quality standards: IP ensures the identity, purity, and potency of medicinal plants.

3. Promotion of traditional medicine: IP supports the use of traditional Indian medicine and herbal products. (8)(9)

Herbal Products Such as Herbs and Herbs

Natural Products in Cosmetics

Natural products are made from plants and botanical extracts, avoiding harsh synthetic chemicals. Examples include aloe vera gel and coconut oil. These products use organic nutrients like vitamin E to promote healthy and glowing skin. Many consumers prefer natural products because they are concerned about the potential harm caused by synthetic ingredients.

- **Skin care products**

Coconut Oil:

Coconut oil is extracted from dried coconuts, which contain 60-65% oil. It's versatile and can be used in both liquid and solid forms. Coconut oil is great for softening and moisturizing skin, making it a popular skincare product. It's also commonly used in cooking and baking due to its melting point

Sunflower Oil:

Sunflower oil comes from sunflower seeds and is gentle on skin (non-comedogenic). It has moisturizing properties and is often used in face and body products. It's a reliable and affordable oil that's been used for years (10)

Olive Oil:

Olive oil comes from the *Olea europaea* tree and is rich in nutrients. It's used in cosmetics to condition skin and hair, and helps with fatty acid absorption.

Aloe Vera

Aloe vera is a plant with healing properties. It's often used in cosmetics to moisturize, soften, and cure skin. Aloe vera is rich in vitamins and amino acids, making it a popular ingredient in skincare products.

- **Anti-aging medicine**

Rhodiola Rosea:

Rhodiola rosea, also known as rose root, is a plant that grows in cold climates. It's used in folk medicine to treat various health issues, such as fatigue, depression, and infections. It's also believed to improve physical strength, work performance, and immunity. *Rhodiola rosea* contains antioxidants that help protect the body.

Carrot:

Carrots are rich in vitamin A and other essential vitamins. Carrot seed oil is used as an anti-aging and rejuvenating remedy. Carrots get their bright orange color from beta-carotene, which is beneficial for human health. Vitamin A from carrots helps support overall well-being.(11)

Ginkgo Biloba

Ginkgo biloba has been used for thousands of years in China and Japan to treat various health issues, such as memory problems, depression, and high blood pressure. It's also known for its anti-inflammatory and antioxidant properties, making it a popular natural remedy. It belongs to the ginkgo family



Neem:

Neem, also known as *Azadirachta indica*, is a tree native to India. Its name means “free tree” in Persian. Neem has antibacterial, antifungal, and antiviral properties, making it effective in treating dandruff and other skin issues.

Ayurvedic Treatment for Dandruff

Ayurvedic herbs like neem, henna, and others are used to treat dandruff. These natural remedies are known for their soothing and healing properties, helping to alleviate scalp issues.

Henna:

Henna is derived from a thornless plant and contains a natural dye molecule called lawsone. When processed, the plant yields henna powder. Henna also contains other compounds like lipids, gallic acid, and resins, making it a unique and versatile plant-based ingredient.

Shikakai

Shikakai, also known as *Acacia concinna* Linn, is a medicinal shrub found in tropical rainforests of South Asia. It's known to promote hair growth and contains natural compounds like saponins, tannins, and alkaloids. These properties make it beneficial for hair care.(12)

Hair care:

Amla:

Amla, the fruit of the *Phyllanthus emblica* tree, is rich in vitamin C and has various uses. It's known to treat scalp and hair issues, and its benefits extend to addressing childhood diseases, hair loss, and eye problems.

Rose and Eucalyptus Oils:

Rose oil and water have medicinal uses, such as relieving tension, depression, and promoting skin health. On the other hand, eucalyptus oil, derived from various species, is used in perfumes, ointments, inhalants, and cough syrups. Eucalyptus oil typically contains compounds like 1,8-cineole, limonene, and alpha-pinene, which contribute to its therapeutic properties.

Grape seeds: They have a great ability to change the hair cycle from telogen to anagen in vivo and promote the Growth of hair follicle cells in vitro.

Ginkgobiloba: This leaf extract can be a hair tonic as it stimulates hair regeneration by affecting the growth and Death of cells in the hair follicles.

Aloe:

Aloe gel is used to treat alopecia and promote hair growth. Its key ingredient, aloenin, encourages hair growth without causing skin irritation, making it a popular natural remedy for hair loss.

Clove Oil

Clove oil, derived from the fragrant flowers of the clove tree, has been used historically to treat toothaches. Its local anesthetic properties provide temporary pain relief by numbing the area. Clove oil is often used in dental products, such as pastes and solutions like Clovacaine, to soothe inflammation and ulcers in the mouth.

Eucalyptus Saligna

Eucalyptus saligna is used in mouth fresheners and gargles to cure halitosis, sore throats, and toothaches. Research on *Eucalyptus globulus* shows its essential oil has antibacterial properties against oral pathogens, suggesting potential benefits for oral health.

Moringa Oleifera:



Moringa oleifera roots can be applied directly to tooth cavities to relieve toothaches. The herb exhibits mild antibacterial properties, particularly against *Staphylococcus aureus*, which may contribute to its potential in alleviating toothache pain.

Allium Sativum (Garlic):

Allium sativum, or garlic, has been extensively studied for its antibacterial properties, attributed to allicin. When garlic is crushed, allicin is produced, which can inhibit the growth of bacteria like *Streptococcus mutans*. As a result, garlic extract in toothpaste or mouthwash may help prevent dental cavities.

Tulsi (Ocimum Sanctum):

Tulsi, or holy basil, contains compounds like eugenol and essential oils, giving it immune-stimulating, antibacterial, and anti-inflammatory properties. It's used to treat various health issues, including periodontitis. However, it should be used cautiously in children and avoided during pregnancy and nursing.

Green Tea (*Camellia sinensis*): It is used in the treatment of periodontal disease.

Marigold (*Calendula officinalis* L): Originally from the Mediterranean. It is used to treat mouth swelling, skin Pain, discomfort, and recovery after oral surgery.

Papain

Papain is a proteolytic enzyme from papaya plants with antibacterial properties effective against various bacteria. It promotes wound healing, reduces inflammation, and breaks down dead tissue without harming healthy tissue, making it useful for wound care and tissue repair.

Miswak

Miswak is a traditional oral care product derived from the *Salvadora persica* (arak) tree. It's used to control oral health and has been added to toothpastes for its anti-inflammatory and anti-gingivitis properties. Typically, fresh stems are chewed to release its beneficial compounds.

Medicinal Concoctions

Herbal preparations are processed blends of herbs or drugs designed to provide specific health benefits, diagnose, treat, or alleviate diseases in humans or animals, and modify bodily functions.

Herbal Syrup

Herbal cough syrups, containing ingredients like tulsi, liquorice, ginger, and Vasaka, offer a natural and effective way to relieve cough symptoms. They're often preferred over conventional medications due to fewer side effects. Mixing with honey can further help soothe dry coughs.

Preparing Herbal Syrup

To make herbal syrup, mix a concentrated herbal decoction with sugar or honey in a 2:1 ratio (2 parts decoction to 1 part sweetener). Boil 4 cups of water with herbs until reduced to 2 cups, then add 1 cup of honey or sugar. This mixture preserves the decoction, extends shelf life, and creates a soothing remedy for coughs, sore throats, and digestive issues.

Herbal Tablets

Herbal tablets are solid dosage forms of medication made by compressing herbal ingredients with excipients like lubricants, binders, and disintegrants. These tablets may be coated to control release, improve taste, or make them easier to swallow, providing a convenient way to deliver herbal benefits.

Preparation of Herbal Extracts:



To prepare herbal extracts, fresh stems and leaves are cleaned, dried, and ground into a fine powder. The powder is then subjected to Soxhlet extraction using ethanol as a solvent. The extract is filtered, centrifuged, and the supernatant is collected and preserved for drying, resulting in a concentrated herbal extract.

Tablet Evaluation: It is required that a tablet pass a few quality checks before it is put on the market. An evaluation of a tablet encompasses an analysis of its chemical, biological, and physical characteristics. The tests listed below are designed to examine them:

- Quality and size;
- Heat;
- Organoleptic characteristics;

- Friability,
- Hardness,
- Uniformity of thickness,
- Specific gravity

Novel Drug Delivery Systems:

Novel Drug Delivery Systems (NDDS) are advanced methods that safely deliver medications to targeted areas, enhancing effectiveness while minimizing side effects. These systems offer benefits like site-specific delivery, reduced toxicity, improved convenience, and better patient compliance, opening new possibilities for treating various diseases

Content of Herbal Monograph Preparations -

HERBAL MONOGRAPH CONTENT
TITLE
SYNONYM
VERNICULAR NAME
IDENTIFICATION PLANT MORPHOLOGY <ul style="list-style-type: none"> • Microscopy • Chemical testing • Nyias txheej chromatography • High performance liquid chromatography
PURITY TEST <ul style="list-style-type: none"> • Foreign matter • Ash content • Loss on drying • Extraction cost
SAFETY ASSESSMENT <ul style="list-style-type: none"> • Heavy Metals • Microbiological Limit
CHEMICAL COMPOSITION
MEDICINAL USE <ul style="list-style-type: none"> • Uses identified in folk medicine and unsupported from experiments or clinical studies • Supports Biology and Pharmacology Efficacy, clinical It is taught with experimental data obtained from research.
SAFETY INFORMATION <ul style="list-style-type: none"> • Scientific Research (Toxicology Research) • Other (Complaints, Precautions, Warnings, Warnings, Warnings)
DOSAGE
STORAGE
REFERENCE



Individual herbal monograph preparations

Chervil leaves



Fig: Chervil Leaves

Synonyms:

Anthriscus cereifolium, French parsley, French herb, chervil, sweet cecilia, parsley, parsnip, garlic. Parsley,

Types of Chervil:

Chervil Garden
Chervil root
Wild Chervil
Chervil drilling

Chervil Paper -

Chervil is a delicate, fern-like herb with a sweet, slightly aniseed flavor, often compared to tarragon

and parsley. It has thin stems and small, light green leaves that can grow up to 30-60cm in height. As it matures, it produces white edible flowers, but the leaves become bitter. There are two main varieties: salad chervil and turnip root chervil (13).



Fig: Chervil Flower

Chervil History-

Chervil, also known as "Myrris" or "pluches de cerfeuille," has been used for centuries as a therapeutic herb and in cooking. It was traditionally used as a spring tonic to purify the body, and its benefits included treating digestive issues, gout, kidney stones, and skin problems. Today, it's often used to help manage high blood pressure, and both its leaves and roots are used in culinary preparations.

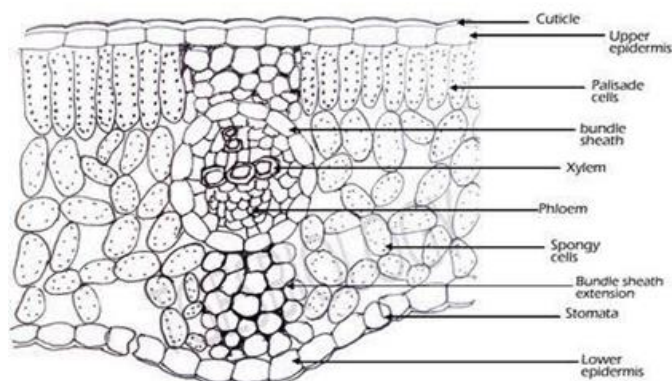


Fig: T. S. of Chervil- leaves

Uses of Chervil-

Chervil has been traditionally used for various health benefits, including as an expectorant, digestive aid, and treatment for high blood pressure, gout, and eczema. It's also used as a spring tonic to rejuvenate the body after winter. In cooking, chervil adds flavor to dishes like eggs, fish, chicken, sauces, and soft cheeses, and is often combined with herbs in butter.

Benefits of chervil-

Chervil is a natural digestive aid, mild stimulant, and mood enhancer. It also treats eye irritation and contains antioxidants like essential oils and flavonoids, with key compounds including methyl piperol and cetane, offering various health benefits.

Morphological Characteristics of Chervil-

Chervil is a hardy plant growing 25-70 cm tall with light green, opposite, and compound leaves. It produces small, white, delicate flowers in umbels and has a single, thin taproot. The fruit is segmented and beak-shaped, containing long, pointed seeds. Chervil leaves are often used fresh or preserved by freezing. (14)

Physical Characteristics of Chervil Plantation-

Chervil is a herbaceous plant that thrives in various conditions. It's frost-hardy, grows up to 0.45 x 0.25 meters, and flowers from May to June. The plant tolerates acidic to alkaline soils and can grow in shade or partial sunlight, requiring consistent moisture. (15)

Chervil Ingredients

Chervil contains essential oils, flavonoids, coumarin, methyl chavicol, and undecane. It's rich in bioflavonoids and nutrients, making it valuable in cooking and aromatherapy. Some products also

feature ethyl eugenol and methyl eugenol, used in fragrances and skincare.(16)

Using Chervil in Cooking-

Chervil adds flavor to dishes like soups, sauces, eggs, and omelettes. For best results, add it towards the end of cooking to preserve its delicate taste. Fresh chervil is preferred, as it loses flavor when dried. (17)

CONCLUSION -

Chervil is a versatile herb with culinary and therapeutic uses, prized for its unique flavor and nutritional benefits. It's often combined with other herbs and can be used fresh, dried, or canned. Beyond its practical applications, chervil holds spiritual significance, symbolizing renewal and immortality, and is used in rituals and amulets.

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