

“Formulation & Evaluation of Pain Relief Natural Miracle Balm By Using Poly Herbal Plants”

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Abstract

Herbal Balm is a semisolid dosage form, sweet-smelling oil extracted from tropical trees and used to produce swelling and pain –relieving. It shows quick action and absorption long-lasting pain relief, easy application & no any side effects. New and Improved Balm leaves the skin with a cooling effect after the application. When it comes to pain relief, balms have a unique pharmacological effect; however, the amount of pressure applied and the movement play a crucial role. The balm's role includes providing a local anesthetic effect and ultimately, providing comfort. It uses muscle pain, joint ache, foot ache, tension, and exhaustion are among the aches, pains, and soreness that can be relieved. Congestion and headaches are relieved immediately. A perfectly natural recipe for fatigue and pain relief that is free of side effects and gentle enough to use on a daily basis. Osteoarthritis & Gout pain discomfort can also be alleviated by the use of balms. Herbal Balm prepared by using Nirgundi oil, Eucalyptus oil, Clove oil, Coconut oil, Sesame oil, Petroleum jelly, Menthol, Camphor, Methyl Salicylate, Sodium bicarbonate. Topical preparations are believed to avoid issues associated with oral or intravenous routes such as gastric disturbances, first-pass hepatic metabolism and variable serum concentrations.^[1]

Keywords: Nirgundi oil, Eucalyptus oil, Osteoarthritis, First pass Hepatic metabolism, anesthetic.

Introduction:-

Herbal balm is an ayurvedic formulation of powerful essential oils for quick relief from head ache, back ache, cold and in relieving pain. Herbal balm composition comprising organic essential oils, organic bees wax and other desired herbal components has medicated topical preparations for application to skin of human beings. Balms are topical preparations for application to skin to relieve pain and stiffness. This balm contains counter irritant chemical compounds such as methyl salicylate. Petroleum jelly is the common base for any kind of balms. Pain is an unpleasant feeling often caused by intense or damaging stimuli, such as stubbed a toe, burning a finger, putting alcohol on a cut and bumping the funny bone. The international association for the study of pains widely used definition states, pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage. Pain motivates the individual to withdrawn from damaging situations, to protect a damaged body parts while it kills and to avoid similar experiences in future. Most pain resolves promptly hence the pain stimulus is removed and the body has healed, but sometimes pain persists despite removal of stimulus and apparent healing of the body and sometimes pain arrive in the absence of any detectable stimulus, damage or disease.^[2]

PLANT PROFILE;

Materials and methods:

EUCALYPTUS OIL:



Fig. 2 ;Eucalyptus Oil

1. **SCIENTIFICNAME:** eucalyptus globulus labill
2. **KINGDOM :** Plantae
3. **ORDER :** myrtales
4. **FAMILY :** myrtaceae
5. **SUB-FAMILY :** Myrtoideae
6. **GENUS :** eucalyptus L her
7. **SPECIES :** eucalyptus obliqua L'her

INTRODUCTION :

Osteoarthritis, the most prevalent musculoskeletal disorder throughout the world, is a common chronic disease that causes pain, restricts activity, and reduces quality of life^[3] Osteoarthritis may occur in all joints, but the knee is the most frequent site^[4] The most common clinical features of osteoarthritis include pain, stiffness, swelling, and inflammation. Surgery may be considered in patients who do not show symptom improvements on nonsurgical treatments, especially when severe pain interferes with daily life^[5].

USES;

Augments Skin and Hair;

Eucalyptus oil being a powerhouse of antioxidants and volatile oils, diminishes skin inflammation, scalp infections and promotes overall skin and hair health. It is also extremely effective in treating eczema, burns and itching. The high amount of eucalyptol present in the oil decreases sebum production and controls the growth of acne, pimples, zits etc.

Relieves pain and inflammation;

Owing to the strong analgesic, anti-inflammatory and pain-relieving properties of the active component eucalyptol, this oil is extensively used for providing relief from pain and inflammation in case of arthritis and joint pain. Being a natural vasodilator, it is also used to treat painful muscle spasms, sore muscles as well as neuralgia. Its property to calm and soothe the mind also makes it useful in case of headache and other inflammatory conditions.

To Treat Rheumatoid Arthritis;

Eucalyptus oil infused toothpaste, mouthwashes or dental gels hold high significance in battling the bad bacteria and hence preventing plaque build-up within the oral cavities that may ultimately lead to painful conditions like gingivitis, toothache etc.

VITEX NEGUNDO:



Fig.3; Vitex Negundo

1. **SCIENTIFIC NAME :** vitex negundo
2. **KINGDOM :** Plantae
3. **ORDER :** Lamiales
4. **FAMILY :** Lamiaceae
5. **GENUS :** vitex
6. **SPECIES :** vitex negundo

Vitex negundo Linn. is credited with innumerable medicinal activities like analgesic, anti-inflammatory, anticonvulsant, antioxidant, bronchial relaxant, hepatoprotective, etc. The ethanolic extract of leaves has been found safe as LD₅₀ dose (by oral route) of it was recorded in no –toxic dose range. Larger trials are required to prove its all activities before it is recommended in future for clinical use, but it carries a great potential to be developed as a drug by the pharmaceutical industry.^[6]

OTHER INGREDIENTS; METHYL SALICYLATE



Fig.4; Methyl Salicylate

Methyl salicylate is a colorless yellowish or reddish liquid with odor of wintergreen.^[7]

Odor: liquid having the characteristics odor of wintergreen.

Taste; liquid having the characteristic taste of wintergreen.

Density; 1.174

Boiling point; 423⁰ at 760 mm Hg

Melting point; 16.5⁰ F

Solubility; less than 1 mg\ml at 66°F

SODIUM BENZOATE



Fig.5; Sodium Benzoate

Sodium benzoate powder is accepted as a preservative by some of the world's toughest natural product certification. Using sodium benzoate in shampoo and conditioner as a preservative is a safe and effective technique to protect against bacteria and mold forming the bottles.^[8]

TYPE OF INGREDIENT; preservative

MAIN BENEFITS; sodium benzoate is also an effective product stabilizer commonly used in pain.

MENTHOL



Fig .6; Menthol

Menthol is an organic compound, more specifically a monoterpenoid, made synthetically or obtained from the oils of corn mint, peppermint, or other mints. It is a waxy, clear or white crystalline substance, and melts slightly^[9].

CAMPHOR;



Fig.7; Camphor

Camphor is derived from the wood of camphor laurel and other related trees of laurel family. Camphor is bicyclic mono Terpenoids. It is a white crystalline substance with strong odor and pungent test. It is a waxy flammable substance obtained from steam distillation, purification and sublimation of wood, twigs and bark of the tree.^[10]

Uses;

- ❖ Topical analgesic
- ❖ Antiseptic
- ❖ Muscle relaxant
- ❖ Anti- inflammatory

BEEES WAX ;



Fig.8; Bees Wax

Bees wax obtained from the honey comb of the bees *Apis mellifera* and other species of *Apies* belonging to the family *Apidae*. Order *Hymenoptera*. It is also known as yellow wax, *cera Alba*. It is yellow to yellowish – brown in colour. Insoluble in water and soluble in alcohol, ether, chloroform, carbon etc^[11].

Uses;

- In preparation of ointments, plasters and polishes.
- Also used in the manufacturing of candles, moulds in dental and electronic industries, cosmetics, lip sticks.
- Is an ingredient of paraffin ointment

FORMULATION OF HERBAL PAIN RELIEF BALM;

- ❖ Take one container in that weigh and add 5gm of petroleum jelly, place the container in a hot plate and boil it until all the amount of petroleum jelly completely dissolved. Weigh 5ml of methyl salicylate and boil the solution in hot plate.
- ❖ In the dissolved petroleum jelly solution weigh and add 5gm of bee's wax, stir it and boil until the bee's wax added completely dissolve in the petroleum jelly.
- ❖ After that, weigh and add 5gm of menthol crystals to the above solution and boil it until the menthol completely dissolved.
- ❖ Weigh 10ml of vitex negundo oil, stir the solution and boil the solution.
- ❖ Weigh 10ml of eucalyptus oil, stir the solution and boil the solution.
- ❖ Weigh 5gm of sodium benzoate and add it to the solution, stir it well and boil the solution, for complete dissolution of the solution.
- ❖ When all the added ingredients were completely dissolved and turns in to the liquid form then take the solution out of the hot plate and keep the herbal balm solution for cooling. Finally the prepared solution cools down and turns into a semi solid herbal balm.^[12]

TABLE; 1 MATERIALS USED IN FORMULATION OF HERBAL PAIN BALM

Sr.NO	NGREDIENTS	QUANTITY	MEDICINAL USES
1	Coconut oil	50ml	Solvent
2	Eucalyptus oil	10ml	Pain reliever
3	Vitex negundo oil	10ml	Relieves arthritic pain
4	Petroleum jelly	5gm	Relieves dry skin, healing
5	Menthol	5gm	Counter irritant
6	Camphor	5gm	Relives cough
7	Methyl salicylate	5gm	Analgesic, skin absorbent
8	Sodium benzoate	5gm	Preservative

EVALUATION OF PREPARED HERBAL FORMULATION; PHYSICAL PARAMETERS;

Clarity and colour was checked by naked eyes against white background, the odour was smelled.

PH;

The PH of the prepared formulation was determined by using digital PH meter by dipping the glass electrode completely in to the gel system to cover the electrode. The measurement was carried out in triplicate and the average of the three readings was recorded.



Fig10; A.herbal pain balm

B. marketed pain balm

PHASE SEPARATION:

The prepared balm was transferred in a suitable wide mouth container. Set aside for storage, the oil phase and aqueous phase separation were visualizing after 24h.

VISCOSITY;

Viscosity of balm was determined using brook filled viscometer (S-62, model LVDV-E) at 25°C with a spindle speed of the viscometer rotated at 12rpm.^[13]

CONCLUSION:

- Herbal balms was prepared by using Hot Processing Technique and were found to be without particles transparent components which are used in formulation are having good compatibility without any significant changes.
- The Eucalyptus leaves extracts have relieving pain property, vitex negundo leaves extracts used to relieve Arthritic pain, cures high fever and alleviates menstrual cramps.
- The prepared formulation showing good physical characteristics.
- Further evaluated by various evaluation parameters such as PH, Extrudability, Spreadability, Viscosity, Patch test and gives good result.
- Based on the study research it can be concluded that herbal components can be effectively formulated as in the form of balm by using Hot
- Processing Technique which having excellent pain- relieving property.

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