



Detail Review on Herbal Ointment for Wound Healing Property.

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ABSTRACT:

Herbal ointments have been a cornerstone of traditional medicine for centuries, offering topical relief for various ailments. This project explores the formation and evolution of herbal ointments, from their ancient origins to modern applications. We delve into the history of herbalism, the development of ointment bases, and the incorporation of herbal extracts. Our research reveals the transition from traditional recipes to scientifically-backed formulations, highlighting advancements in extraction methods, quality control, and safety assessments. Additionally, we examine the role of herbal ointments in contemporary pharmacy practice, including their therapeutic applications, advantages, and limitations. This comprehensive review explores the formation and evolution of herbal ointments, from their ancient origins to modern applications. We delve into the historical development of herbalism, ointment bases, and extraction methods, highlighting advancements in:

- Standardization and quality control measures

- Scientific research and clinical trials

- Expansion of herbal ingredients and ointment bases

Our analysis reveals the transition from traditional recipes to evidence-based formulations, underscoring the importance of integrating traditional knowledge with modern science. We examine the therapeutic applications, advantages, and limitations of contemporary herbal ointments, including:

- Wound care and skin conditions

- Pain management and inflammation

- Antimicrobial and antifungal application

and dermatological uses.

-Cosmetics and dermatologist use.

This review aims to provide an overview of the formulation and evaluation of herbal ointments containing Neem (*Azadirachta indica*), turmeric (*Curcuma longa*), and Tulsi (*Ocimum tenuiflorum*), Mint, Ginger. These three Herbs have long been recognized for their medicinal properties and have been extensively used in traditional Medicine.

KEYWORDS: Neem, Turmeric, Tulsi, Mint, Ginger, Maceration, Levigation, Extrudability, Spreadability, Anti-microbial, Anti-fungal. Wound care, cosmetics etc .

INTRODUCTION:

Herbal ointments have been a cornerstone of traditional medicine for centuries, providing topical relief for various ailments. From ancient civilizations to modern times, these plant-based formulations have evolved significantly, shaped by advances in science, technology, and regulatory frameworks.

Despite their long history, herbal ointments remain a vital part of contemporary healthcare, offering effective and natural solutions for wound care, skin conditions, pain management, and more. This comprehensive review explores the formation and evolution of herbal ointments, from their historical roots to modern applications, highlighting the intersection of traditional knowledge and scientific innovation. By examining the development of herbal ointments, we can gain a deeper understanding therapeutic potential, limitations, and future directions, contributing to the advancement of evidence-based herbal medicines.

Formulation Techniques.

The formulation of herbal ointments involves selecting suitable excipients, optimizing the concentration of active ingredients, and designing a stable and effective delivery system. Different techniques such as cold process, hot process, and emulsion-based methods have been employed to formulate ointments containing neem, turmeric, and tulsi extracts. The choice of technique depends on the physicochemical properties of the extracts and desired ointment characteristics.

Phytochemicals Composition.

Neem, turmeric, and tulsi extracts contain several bioactive compounds responsible for their therapeutic effects. Neem extract contains nimbin, nimbidin, azadirachtin, and other triterpenoids. Turmeric extract contains curcuminoids, mainly curcumin, demethoxycurcumin, and bisdemethoxycurcumin. Tulsi extract is rich in eugenol, rosmarinic acid, ursolic acid, and flavonoids. These phytochemicals contribute to the pharmacological activities of the herbal ointments.

Evaluation Parameters:

The evaluation of herbal ointments involves various parameters to ensure their quality, stability, and efficacy. These parameters include physical appearance, pH, viscosity, spreadability, drug release profile, microbiological activity, antioxidant potential, and skin irritation potential. Additionally, in vivo studies and clinical trials are necessary to assess the safety and effectiveness of the formulated ointments.

Application in Dermatological Conditions:

Herbal ointments containing neem, turmeric, and tulsi extracts have shown promise in the management of various dermatological conditions, including acne, eczema, psoriasis, wound healing, and fungal infections. The synergistic effects of these herbal extracts enhance their therapeutic potential, making them suitable alternatives to conventional treatments.

There are several types of ointments, including:

1. Hydrophobic ointments (water-repelling): Made with ingredients like petroleum jelly, beeswax, or lanolin.
2. Hydrophilic ointments (water-attracting): Made with ingredients like glycerin, honey, or panthenol.
3. Emulsion ointments: Combine water and oil, like cream or lotion.
4. Water-soluble ointments: Dissolve in water, like gel or serum.
5. Oil-soluble ointments: Dissolve in oil, like balms or salves.
6. Semi-solid ointments: Have a soft, creamy texture, like petroleum jelly or coconut oil.
7. Solid ointments: Have a firm, wax-like texture, like beeswax or shea butter.
8. Liquid ointments: Have a pourable consistency, like oils or serums.
9. Transdermal ointments: Deliver medication through the skin, like patches or gels.
10. Topical ointments: Applied directly to the skin surface, like creams or lotions.

Additionally, ointments can be classified based on their therapeutic properties, such as:

- Antibacterial ointments
- Anti-inflammatory ointments
- Antifungal ointments
- Pain-relieving ointments

- Wound-healing ointments

Types of Wound healing ointment.

1. Antibiotic ointments: Contain ingredients like neomycin or bacitracin to prevent infection.
2. Hydrocortisone ointments: Reduce inflammation and itching.
3. Topical antibiotic ointments: Apply directly to the wound to prevent infection.
4. Moisturizing ointments: Help keep the wound moist, promoting healing.
5. Enzyme-based ointments: Contain enzymes like papain or bromelain to break down dead tissue.
6. Growth factor ointments: Contain growth factors like platelet-derived growth factor (PDGF) to stimulate healing.
7. Debridement ointments: Help remove dead tissue and debris from the wound.
8. Protective ointments: Create a barrier to protect the wound from further irritation.
9. Soothing ointments: Help reduce pain and discomfort.
10. Antifungal ointments: Treat fungal infections in the wound.
11. Silver ointments: Use silver's antimicrobial properties to prevent infection.
12. Foam ointments: Provide a protective barrier and cushioning for the wound.
13. Gel ointments: Help keep the wound moist and promote healing.
14. Film ointments: Create a transparent, protective barrier.
15. Powder ointments: Absorb excess moisture and reduce friction.

Here's a potential formulation for a Tulsi Herbal Ointment.

1. *TULSI*.



Ingredients.

- Tulsi (*Ocimum sanctum*) extract (10%)
- Beeswax (20%)
- Coconut oil (20%)
- Shea butter (15%)
- Vitamin E oil (5%)
- Tea tree oil (5%)

- Lavender oil (5%)

Instructions:

1. Infuse tulsi leaves in coconut oil for 2-3 weeks.
2. Strain and mix with beeswax, shea butter, vitamin E oil, tea tree oil, and lavender oil.
3. Heat the mixture until the beeswax melts.
4. Pour into ointment jars and let cool.

Properties:

- Antimicrobial and antifungal properties from tulsi and tea tree oil
- Anti-inflammatory and antioxidant properties from tulsi and vitamin E oil
- Soothing and moisturizing properties from coconut oil, shea butter, and lavender oil
- Wound healing and skin protective properties from beeswax and tulsi.

Uses:- Skin irritations and inflammation

- Wounds and cuts
- Skin infections and fungal infections
- Eczema and acne
- Bug bites and minor burns.

SIDE EFFECT OF TULSI:-

No of the dosage, formulation, age, or gender of the volunteers, all of the Tulsi studies conducted to date Have shown beneficial therapeutic results with few to no side effects.

☐ Stomach upset: In some cases, consuming tulsi may cause gastrointestinal discomfort such as Nausea, vomiting, or diarrhea. This is more likely to occur in individuals with sensitive stomachs or those who Consume large amounts of tulsi.

☐ Hypoglycemia: Tulsi has the potential to lower blood sugar levels. If you have diabetes or are Taking medications to lower blood sugar, consuming large amounts of tulsi may cause hypoglycemia (low Blood sugar). It's important to monitor your blood sugar levels closely and consult with a healthcare professional you have any concerns.

☐ Interactions with medications: Tulsi may interact with certain medications, such as anticoagulants (blood thinners) or antiplatelet drugs, due to its antiplatelet and anticoagulant effects. It's essential to consult With a healthcare professional if you are taking any medications to ensure there are no potential interactions.

2.NEEM



Ingredients:

- Neem (*Azadirachta indica*) extract (15%)
- Beeswax (20%)
- Coconut oil (20%)
- Shea butter (15%)
- Tea tree oil (5%)
- Lavender oil (5%)
- Vitamin E oil (5%)

Instructions:

1. Infuse neem leaves in coconut oil for 2-3 weeks.
2. Strain and mix with beeswax, shea butter, tea tree oil, lavender oil, and vitamin E oil.
3. Heat the mixture until the beeswax melts.
4. Pour into ointment jars and let cool.

Properties:

- Antimicrobial and antifungal properties from neem and tea tree oil
- Anti-inflammatory and antioxidant properties from neem and vitamin E oil
- Soothing and moisturizing properties from coconut oil, shea butter, and lavender oil
- Wound healing and skin protective properties from beeswax and neem

Uses:

- Skin irritations and inflammation
- Wounds and cuts
- Skin infections and fungal infections
- Eczema and acne
- Bug bites and minor burns
- Hair care: dandruff, lice, and itchy scalp

Side effects:

1. Allergic reactions: Some people may be allergic to neem, which can cause symptoms like hives, itching, and difficulty breathing.
2. Digestive issues: Neem can cause stomach upset, nausea, and diarrhea in some individuals.
3. Interaction with medications: Neem can interact with certain medications, such as diabetes medications, blood thinners, and medications for high blood pressure.
4. Pregnancy and breastfeeding: Neem may stimulate the uterus, which can cause miscarriage or premature labor.
5. Kidney and liver problems: Neem may worsen kidney or liver problems in people with pre-existing conditions.
6. Blood sugar control: Neem may lower blood sugar levels, which can be a concern for people with diabetes.
7. Thyroid problems: Neem may worsen thyroid problems in people with pre-existing conditions.
8. Skin irritation: Neem can cause skin irritation, such as redness, itching, and burning, especially if used in high concentrations.

3. TURMERIC



Ingredients:

- Turmeric (*Curcuma longa*) extract (15%)
- Beeswax (20%)
- Coconut oil (20%)
- Shea butter (15%)
- Vitamin E oil (5%)
- Tea tree oil (5%)
- Ginger oil (5%)

Instructions:

1. Infuse turmeric powder in coconut oil for 2-3 weeks.
2. Strain and mix with beeswax, shea butter, vitamin E oil, tea tree oil, and ginger oil.
3. Heat the mixture until the beeswax melts.
4. Pour into ointment jars and let cool.

Properties:

- Anti-inflammatory and antioxidant properties from turmeric
- Antimicrobial properties from tea tree oil
- Soothing and moisturizing properties from coconut oil, shea butter, and vitamin E oil
- Wound healing and skin protective properties from beeswax and turmeric

Uses:

- Skin irritations and inflammation
- Wounds and cuts
- Skin infections and fungal infections
- Eczema and acne
- Bug bites and minor burns
- Reduce scar appearance

Side effect of turmeric

1. Gastrointestinal issues: Turmeric can cause stomach upset, nausea, diarrhea, and abdominal pain in some individuals.
2. Allergic reactions: Some people may be allergic to turmeric, which can cause symptoms like hives, itching, and difficulty breathing.
3. Blood thinning: Turmeric can act as a blood thinner, which can increase the risk of bleeding and bruising.
4. Diabetes: Turmeric can lower blood sugar levels, which can be a concern for people with diabetes.
5. Gallstones: Turmeric can increase the risk of gallstones by increasing bile production.
6. Pregnancy and breastfeeding: Turmeric may stimulate the uterus, which can cause miscarriage or premature labor.
7. Interaction with medications: Turmeric can interact with certain medications, such as blood thinners, diabetes medications, and blood pressure medications.

4.MINT



Ingredients:

- Peppermint (*Mentha piperita*) extract (10%)
- Beeswax (20%)
- Coconut oil (20%)
- Shea butter (15%)
- Vitamin E oil (5%)
- Tea tree oil (5%)
- Eucalyptus oil (5%)

Instructions:

1. Infuse peppermint leaves in coconut oil for 2-3 weeks.
2. Strain and mix with beeswax, shea butter, vitamin E oil, tea tree oil, and eucalyptus oil.
3. Heat the mixture until the beeswax melts.
4. Pour into ointment jars and let cool.

Properties:

- Cooling and refreshing properties from peppermint
- Antimicrobial properties from tea tree oil

- Anti-inflammatory properties from eucalyptus oil
- Soothing and moisturizing properties from coconut oil, shea butter, and vitamin E oil
- Wound healing and skin protective properties from beeswax

Uses:

- Skin irritations and inflammation
- Wounds and cuts
- Skin infections and fungal infections
- Eczema and acne
- Bug bites and minor burns
- Refreshing and cooling effect

This mint herbal ointment formulation combines the cooling and refreshing properties of peppermint with the antimicrobial and anti-inflammatory properties of tea tree oil and eucalyptus oil, making it a great remedy for skin irritations, wounds, and insect bites.

Side Effects of Mint

Mint, particularly peppermint (*Mentha piperita*), is generally considered safe when used in moderation. However, like any herbal remedy, it can cause side effects in some individuals. Here are some possible side effects of mint:

1. Allergic reactions: Some people may be allergic to mint, which can cause symptoms like hives, itching, and difficulty breathing.
2. Digestive issues: Mint can cause stomach upset, nausea, and diarrhea in some individuals.
3. Interactions with medications: Mint can interact with certain medications, such as antacids, blood thinners, and diabetes medications.
4. Pregnancy and breastfeeding: Mint may stimulate the uterus, which can cause miscarriage or premature labor.
5. Skin irritation: Mint can cause skin irritation, such as redness, itching, and burning, especially if used in high concentrations.
6. Headaches and migraines: Mint can trigger or worsen headaches and migraines in some individuals.
7. Respiratory issues: Mint can cause respiratory problems, such as bronchospasm, in people with asthma or other respiratory conditions.

5. **GINGER**



Ingredients:

- Ginger (*Zingiber officinale*) extract (15%)
- Beeswax (20%)

- Coconut oil (20%)
- Shea butter (15%)
- Vitamin E oil (5%)
- Tea tree oil (5%)
- Lavender oil (5%)

Instructions:

1. Infuse ginger root in coconut oil for 2-3 weeks.
2. Strain and mix with beeswax, shea butter, vitamin E oil, tea tree oil, and lavender oil.
3. Heat the mixture until the beeswax melts.
4. Pour into ointment jars and let cool.

Properties:

- Anti-inflammatory and antioxidant properties from ginger
- Antimicrobial properties from tea tree oil
- Soothing and moisturizing properties from coconut oil, shea butter, and vitamin E oil
- Wound healing and skin protective properties from beeswax

Uses:

- Skin irritations and inflammation
 - Wounds and cuts
 - Skin infections and fungal infections
 - Eczema and acne
 - Bug bites and minor burns
 - Muscle and joint pain relief
- This ginger herbal ointment formulation combines the anti-inflammatory and antioxidant properties of ginger with the antimicrobial and soothing properties of tea tree oil and coconut oil, making it a great remedy for skin irritations, wounds, and muscle and joint pain relief.

Side effects of Ginger.

Ginger, also known as *Zingiber officinale*, is generally considered safe when used in moderation. However, like any herbal remedy, it can cause side effects in some individuals. Here are some possible side effects of ginger:

1. Digestive issues: Ginger can cause stomach upset, nausea, and diarrhea in some individuals.
2. Allergic reactions: Some people may be allergic to ginger, which can cause symptoms like hives, itching, and difficulty breathing.
3. Blood thinning: Ginger can act as a blood thinner, which can increase the risk of bleeding and bruising.
4. Diabetes: Ginger can lower blood sugar levels, which can be a concern for people with diabetes.
5. Pregnancy and breastfeeding: Ginger may stimulate the uterus, which can cause miscarriage or premature labor.
6. Interaction with medications: Ginger can interact with certain medications, such as blood thinners, diabetes medications, and blood pressure medications.
7. Heart conditions: Ginger can increase blood flow and lower blood pressure, which can be a concern for people with certain heart conditions.
8. Surgery: Ginger can increase the risk of bleeding during surgery.

CONCLUSION :-

Formulating herbal ointments containing neem, mint, ginger, turmeric, and tulsi extracts offers a natural and effective Approach to treat dermatological conditions. The combination of these herbs provides a broad-spectrum of Therapeutic activities. However, further research is needed to optimize the formulation techniques, Standardize the extraction processes, and conduct extensive clinical trials to establish their safety and Efficacy.

In conclusion, we have discussed the following:

1. Tulsi (Holy Bal ointment formulation and its benefits).
2. Neem herbal ointment formulation and its benefits.
3. Turmeric herbal ointment formulation and its benefits.
4. Mint herbal ointment formulation and its benefits.
5. Ginger herbal ointment formulation and its benefits.
6. Potential side effects of each herb (Tulsi, Neem, Turmeric, Mint, and Ginger)etc.

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