



PREPARATION AND EVALUATION OF HERBAL ANTI FUNGAL CREAM

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ABSTRACT

The antifungal cream was formulated by using various herbs such as Measua ferrari, saussurea lappa, blue vitriol, cyminum carnum, piper nigrum, sulphur, Mercury, ghee, menthol.

The ayurvedic topical application are very helpful and it is less prone from any side effects. All herbal ingredients are easily available in market.

This antifungal cream not only protect skin from fungal and microbial infection it also helps in treatment of skin disease it also have anti aging property this cream also have less side effects.

Ayurvedic is vast medicinal science which focus on healthy living then treatment of disease. Ayurvedic medicinal system is very traditional system of medicine. it is going very important and popular across the world.

All the herbal ingredient used in the formulation provide antibacterial, antifungal, anti aging, moisturising properties

Procedure for preparation of antifungal cream :-

This is two part method

- 1) grinding of all ingredient
- 2) mixing all ingredients in ghee

Excellent results against fungal infection were seen in formulation prepared by the above mentioned procedure.

Formulated anti fungal cream was evaluated for various parameters such as spreadability test, viscosity, acid value, penetration test, pH and irritation tests.

All the values in the evaluation of finished product showed that they are within the acceptable limits. hence, it is concluded that the anti fungal cream is beneficial in reduction of fungal inf

INTRODUCTION

Herbal medicine are prepared by the association of bioactive ingredients and pharmaceutical products. The presence of number of phytochemicals and botanical in the herbal products have dual significance, one that

they are used as Cosmetics for body care and another that phytochemicals improve the biological Functions of human body.

There are different type of antifungal agent available in market in different preparation such as cream, ointment, powder, oi and lotion for the purpose of local dermatological therapy, as we know there are lot of people suffering from anti fungal infection some infections remain for a prolonged period of time i.e. two to three years, in people living near seashore areas those people also suffer from blood impurity problems.

The most common therapeutic option are systemic And topical antifungal agent however oral antifungal agents are associated with lot of side effects it causes discomfort to patient, Such as fluconazole causes slowed heart rate thats why cream lotion,gels are the best option in case antifungal infection.

Fungal infection represents inversion of tissues by one or more species of fungi which may cause superficial , localized, Deeper tissue infection to serious lung blood or systemic disease. Antifungal drugs effective therapeutic levels in viable epidermis after dermal administration. The greatest challenge for dermal drug delivery is stratum corneum in order to improve its permeability new formulation approaches have been investigated I Have made herbal antifungal cream which shows less side effects than other and effective against antifungal infection.



Common name	Part used	uses	fig
<p>Mesua ferrea Ceylon ironwood</p>	<p>Flower</p>	<p>Used in skin disease, itching, antifungal agent</p>	
<p>Saussurea lappa Kostha Costume</p>	<p>Bark</p>	<p>Used to treat skin diseases</p>	
<p>Piper nigrum mire</p>	<p>Seeds</p>	<p>Antifungal Antimicrobial Anti Inflammatory</p>	
<p>Cyminum carnimum jeera</p>	<p>Seeds</p>	<p>Essential oil in it is disinfectant</p>	

Common name	Part used	uses	fig
Blue vitriol Morchut Copper sulfide	Powder	Fungicide	
Sulfur	Powder	It dry your skin for absorption of other oil	
Ghee	Ghee	Antifungal Antibacterial Best first aid	
Menthol Asmantara	Leaf	It provide coolness	



1) Mesua ferrea (Nagakesar):-

Fresh flowers of this tree are useful in **skin diseases** like leprosy, itching, erysipelas, scabies, wounds and excessive sweating as it provides fragility and transparency to the skin. Dried flowers are used in Dysentery with Mucus. Oil from the seeds of this tree are used in treating sores and rheumatism.

Mesua ferrea Linn (Nagakesar) is a rare plant which is traditionally being used for its **antiseptic, anti-inflammatory**, blood purifier, anthelmintic, cardiotoxic, diuretic, expectorant, antipyretic, purgative, antiasthmatic, antiallergic and several other effects.



Saussurea Lappa (Koshta) :-

It is used in the treatment of the skin related disease. It benefits in cure of skin disease. It is also used in anti aging cream . it has anti fungal and anti microbial activity.

Koshta root are used in the treatment of worm infection (nematoid). In the Ayurveda koshta is an very important medicinal herb which is used to treat and heal skin.

**Piper Nigrum-(mire)**

Piper Nigrum-Pepper's antibacterial and anti-inflammatory properties help cure skin infections and acne. Apart from adding it to your diet, try including it in your face scrubs. It exfoliates dead skin and stimulates blood circulation causing more oxygen to flow to your face. This results in a healthy and glowing complexion. Black pepper (Piper nigrum) is one of the most commonly used spices in the world. It contains a chemical called piperine, which seems to kill bacteria. Piperine might also kill fungi and parasites, and help the body absorb some drugs.



Cuminum carnimum: (jeera)

Jeera-Cumin is said to increase the heat in the body thus making metabolism more efficient. Jeera is rich in Vitamin-E. The essential oils present in this have disinfectant and anti fungal properties, which prevents any microbial and fungal infection from affecting the skin. Cumin is a rich source of dietary fiber, exhibits carminative, anti-fungal, and anti-microbial properties. The essential oils cumin aldehyde and pyrazines in jeera act as a natural laxative, aids in curing infections or wounds in the excretory system and relieves hemorrhoids.



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Blue vitriol:- (morchut)

Blue vitriol-Copper sulfate (also called bluestone) was one of the original forms of copper used as a fungicide. Bordeaux mixture combines copper sulfate with lime (calcium hydroxide), which acts as a “safener” to neutralize the acidic copper sulfate — this reduces plant damage.



Sulphur:-(Gandhak)

Sulphur-Sulfur helps dry out the surface of your skin to help absorb excess oil (sebum) that may contribute to acne breakouts.

It also dries out dead skin cells to help unclog your pores. Some products contain sulfur along with other acne-fighting ingredients, such as resorcinol. Sulfur may have some properties that can alleviate eczema. It appears to be antimicrobial and a keratolytic, which means it can soften and hydrate hard, dry skin. The substance may also have anti-inflammatory properties and could help reduce itching. Sulfur has antifungal, antibacterial, and keratolytic activity. In the past, its use was widespread in dermatological disorders such as acne vulgaris, rosacea, seborrheic dermatitis, dandruff, pityriasis versicolor, scabies, and warts. Of all available topical therapies, lime sulfur solution is the most effective as it sterilizes the coat to prevent further growth of ringworm, is relatively easy to apply rapidly to a number of cats, and has been documented to work well in a shelter setting.



Ghee-

One of the chief health benefits of pure ghee is that the CLA present in it also has anti-bacterial and antifungal properties. That means ghee can effectively ward off bacterial and fungal infections

ghee is a good source of energy. It contains medium and short-chain fatty acids, "of which, **lauric acid is a potent antimicrobial and antifungal** substance." Nursing mothers are often given ladoos loaded with ghee, since they are loaded with energy..

The **anti-microbial properties** of Ghee makes it the best first aid for cuts , scrapes , bruises and burn wounds. - Ghee contains all the good fatty acids to induce hydration in your skin Ghee is **Deeply Absorbent. Ghee contains essential fatty acids that induce hydration in the skin cells**, thus moisturizing the skin. It is a form of oil that can bond with other nutrients and herbs to penetrate the deepest layers of the body



Menthol-

New Itch Guard Plus Cooling Menthol Antifungal Cream works by inhibiting the growth of the fungus that causes the infection. It also provides relief from the symptoms of itching, soreness and irritation. After the fungus has been obliterated, it also slowly heals and soothes the affected skin. reported that menthol possessed great antifungal activity against pathogenic fungi including

METHOD OF PREPARATION :-

For the preparation of herbal anti-fungal cream , I have selected eight important ingredient such as Mesua ferrea (Nagkeshar), Saussurea Lappa (Kostha), Blue vitriol (Morchut), Cuminum Cyminum

(Jeera), Piper nigrum (mire), Arsenic disulphide(Manhashila),Menthol (Asmantara), Ghee were collected from local market and botanical garden .

We have to take each ingredient and convert it into the fine powder. The conversion of fine powder is done with the help of grinder . With the help of sieves we can separate out particles of same size of each ingredient . I have taken menthol because it provides cooling effect menthol also used in the problem of itching.first of all we have to take ghee in the copper utensils.spatula of copper is also

needed. All the apparatus used in this method are made of copper because according to ayurveda copper has ability to balance all the three doshas in your body(vata, kapha nad pitta) in ayurveda it is well -known nutrient for antimicrobial and healing properties.

After taking ghee we have to add each ingredient in it in the measure of 10 gm in copper vessel and mix it vigorously with spatula for at least 15-20 minutes.

Sr. No	Ingredients	Quantity(g)
1	Mesua ferrea	10
2	Saussurea lappa	10
3	Blue vitriol	10
4	Cuminum Cyminum	10
5	Piper nigrum	10
6	Arsenic disulphide	10
7	Menthol	10
8	Ghee	As required complete 2

Viscosity -Instruments called “rheometers” and “viscometers” are used to measure viscosity of

Sr No.	Batch	pH
1	Batch 1	5.8
2	Batch 2	5.6
3	Batch 3	6.1
4	Batch 4	6.3
5	Batch 5	6.9

pharmaceutical liquids and semi-solid materials like creams/ ointments. Viscosity flow curves shown in the instrument display - see Figure 1 – characterize typical behavior of pharmaceutical products. cP = centipoise

Sr No.	Batch	Viscosity(cP)
1	Batch 1	60
2	Batch 2	55
3	Batch 3	66
4	Batch 4	70
5	Batch 5	62

pH Test -First, you have to make sure that the cream is o/w and not w/o.

Only for the o/w system based products, you should do the pH of the finished product (as is) using a properly calibrated pH meter and then (50% dilution with water.) This will give you the true pH of your product.

Spreadability test

Cream base should spread easily without too much drag and should not produce greater friction in

Sr No.	Batch	Penetration
1	Batch 1	1.2
2	Batch 2	1.3
3	Batch 3	1.4
4	Batch 4	2
5	Batch 5	1.8

the rubbing process. Spreadability was calculated using the spreadability apparatus made of wooden board with scale and two glass slides having two pans on both sides mounted on a pulley

The penetration test, using a hemispherical probe, is an imitative test simulating the ease by which a human finger will deform the sample during application of the cream. This test allows the consistencies of creams to be assessed.

Test Speed: 2.0 mm/s

Test Type: Compression

Pre-Test Speed: 1.0 mm/s

Trigger Force: 10 g

		1	2	3	4	5
1	Nagkeshar	8	9	9.5	10	
2	Koshta	8	9	9.5	10	
3	Piper nigrum	8	9	9.5	10	
4	Jeera	8	9	9.5	10	
5	Blue vitriol	8	9	9.5	10	
6	Ghee	130	130	130	130	
7	Menthol	8	9	9.5	10	



Advantages :-

- Provides effective relief from fungal infection
- helpful in treating mild skin
- it has anti aging property
- It moisturize the skin
- Topically applied to the skin to control and maneg fungal infections
- It also provide coolness

Colour :-

It's Little Bit black and green in colour

Odour:-

It smells like fantastic.

Results :-

Herbal antifungal cream was prepared and evaluated by using above mentioned tests/methods

