



FORMULATION AND EVALUATION HERBAL CREAM FOR TREATMENT SHINGLES HERPES ZOSTER

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ABSTRACT

Shingles caused by the reactivation of the varicella-zoster virus, often presents with painful skin rashes and blisters. While antiviral medications are commonly used for treatment, herbal remedies have gained attention for their potential to alleviate symptoms and promote healing. This study explores the development and efficacy of a novel herbal cream formulated specifically for shingles relief. The cream comprises a blend of natural ingredients known for their anti-inflammatory, analgesic, and antiviral properties, including extracts of licorice root, Neem, Tulsi, Turmeric, Aloe vera gel, Rose oil, and St. John's wort. The research methodology involved a randomized controlled trial with participants diagnosed with shingles. The cream was applied topically to affected areas, and outcomes such as pain reduction, lesion healing, and overall symptom relief were assessed over a defined period. Preliminary results indicate promising outcomes, with a significant reduction in pain and faster healing observed among participants using the herbal cream compared to controls. The cream's tolerability and safety profile were also favorable, with no reported adverse effects. In conclusion, this herbal cream shows potential as a complementary or alternative treatment for shingles, offering symptomatic relief and aiding in the recovery process. Further studies are recommended to validate these findings and explore the mechanisms underlying the cream's therapeutic effects.

Key words: licorice, Shingles, varicella zoster virus.

INTRODUCTION

Herpes zoster, also known as shingles, is a viral syndrome caused by reactivation of the varicella-zoster virus. After Herpes an episode of varicella (chicken-pox), the varicella-zoster virus remains dormant in the nervous system. Herpes zoster typically occurs in adults or elderly

It is Believed that zoster occurs due to the failure of the immune defense system to control the latent replication of the virus. The incidence of herpes zoster is strongly correlated to the immune status. Individuals who maintain a high level of immunity rarely develop shingles. The infection is not benign and can present in many ways. Even after herpes zoster resolves, many patients continue to suffer from moderate to severe pain known as postherpetic neuralgia.

Shingles is not usually dangerous to healthy individuals although it can cause great misery during an attack. Anyone with shingles on the upper half of their face, no matter how mild, should seek medical care at once because of the risk of damage to the eye.

Pathophysiology

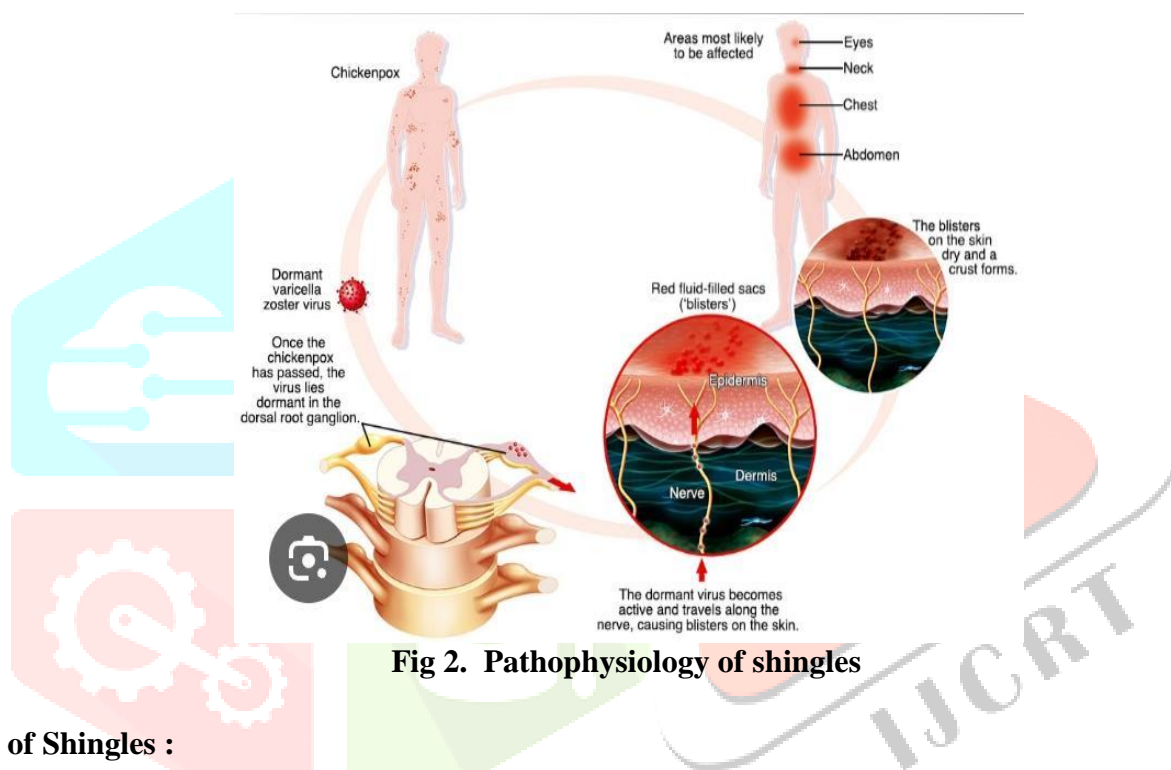


Fig 2. Pathophysiology of shingles

Type of Shingles :

Varicella-zoster virus: Very painful, self-limited vesicular rash with acute neuritis. Due to reactivation of the varicella zoster virus from dorsal root ganglion nerves Virus lies dormant in dorsal root ganglion after initial infection with varicella zoster virus (Chicken Pox) Often dormant for decades. Reactivate due to several causes, including immunosuppressive.

Shingles : Phase of illnesses.

There are included 3 phase of shingle

1. Pre – eruptive phase.
2. Acute eruption phase
3. Chronic Phase .

1. Pre eruptive phase :

- Pre-herpetic neuralgiaPain,
- paresthesia's in 1 or more dermatomes

- Headache, malaise, myalgia, fatigue, fever (uncommon)
- Lasts 1-10 days

2.Acute Eruptive Phase :

- Severe pain with herpetiform vesicles on an erythematous
- Base along 1 or more dermatomes
- Doesn't cross midline
- Regional lymphadenopathy
- "Clear" vesicles that eventually become "cloudy", then rupture and crust over and involute
- Thoracic and lumbar dermatomes most common

3.Chronic phase:

- Post-herpetic neuralgia
- Persistent or recurring pain
- Pain occurs in the area of the prior acute eruption
- Higher rates in elderly
- Scarring can occur

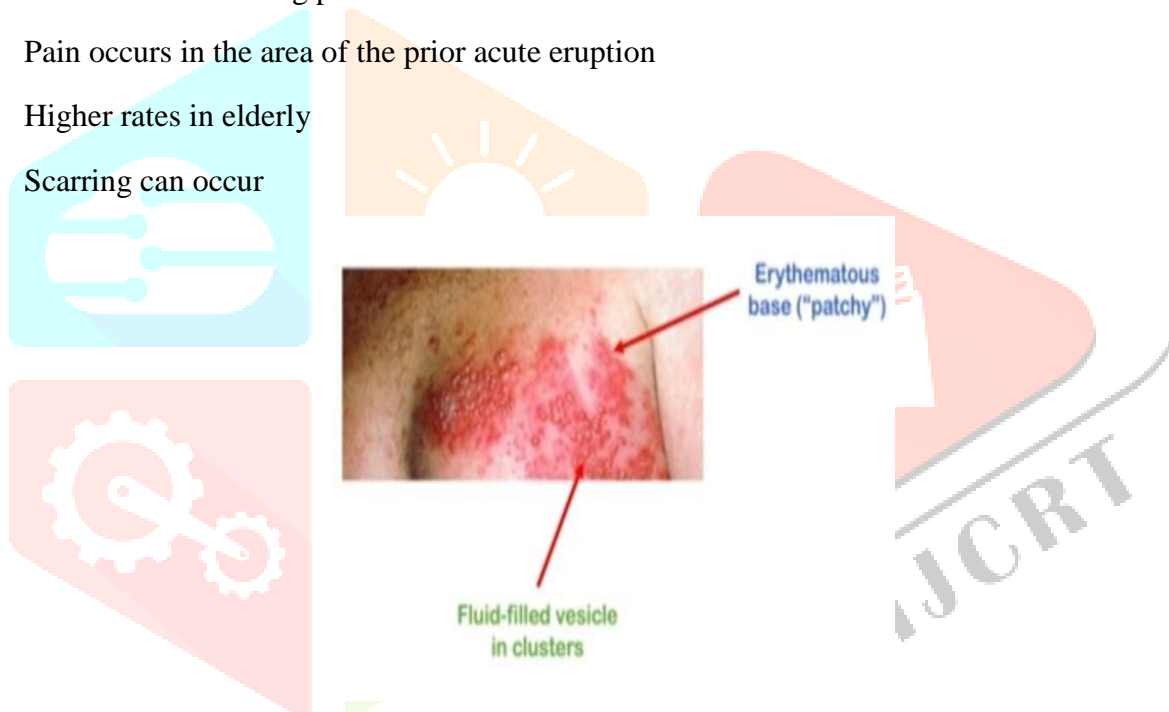


Fig 3. Acute Eruptive Phase

Risk factors for Shingles :

- 1)Increasing Age (most important), particularly after 50 years of age
- 2) Immunocompromised conditions
- 3) Transplant patients
- 4) Autoimmune conditions
- 5) Female gender
- 6) European descent
- 7) Chronic disease states (ex. Lung or kidney disease)

Symptoms

1. Shingles usually affect one side.
2. Fever.
3. A constant dull , burning or gnawing pain.

PLANT PROFILE

1. Licorice

Biology Name :Glycyrrhizaglabra.



Chemical Constituents:

glycyrrhizin, flavonoids, coumarins, and saponins. Glycyrrhizin is the main active compound responsible for licorice's characteristic sweet taste and some of its

Medicinal property:

1. **Anti-inflammatory:** Licorice has been used traditionally to reduce inflammation, making it potentially beneficial for conditions such as arthritis and gastritis.
2. **Antioxidant:** Compounds found in licorice, such as flavonoids, exhibit antioxidant properties, which can help protect cells from damage caused by free radicals.
3. **Antiviral:** Licorice has demonstrated antiviral activity against certainviruses, including herpes simplex virus and respiratory syncytial virus.

Medicinal Uses :

1. Bacterial and viral infections.
2. Curing problems such as sore throat and cough

2 NEEM

Biological Name: Azadirachta indica.

Chemical Constituents :Neem contains a variety of chemical constituents, including nimbin, nimbidin, azadirachtin, nimbolide,



Fig5. Neem

Medicinal property

- 1.**Antibacterial:** Neem has potent antibacterial properties, which can help in fighting off various bacteria, including those responsible for infections.
- 2.**Antifungal:** Neem extracts have antifungal properties, making them useful in treating fungal infections like athlete's foot and nail Funges .
- 3.**Antioxidant:** Neem contains antioxidants that help in neutralizing harmful free radicals, thus protecting cells from damage.
- 4.**Anti-inflammatory:** Neem has anti-inflammatory effects, which can be beneficial in reducing inflammation in conditions like arthritis
- 5.**Antimalarial:** Neem extracts have been traditionally used in treating malaria due to their

Medicinal uses:

- 1.Treats Fungal Infection
- 2.Useful in Detoxification
- 3.Increases Immunity

3.TULSHI

Biological Name: Ocimum sanctum

Chemical Constituents:Eugenol,rosmarinicacid

Medical property

- 1.**Adaptogenic:** Tulsi helps the body adapt to stress and promotes mental balance.
- 2.**Anti-inflammatory:** It has anti-inflammatory properties that can help with conditions like arthritis

3.Antioxidant: Tulsi is rich in antioxidants that protect cells from damage caused by free radicals.

4.Antimicrobial: It has antimicrobial properties that can help fight infections

5.Respiratory Health: Tulsi is beneficial for respiratory health, helping with coughs and colds

6.Digestive Aid: It can aid digestion and reduce bloating and gas.



Fig6. Tulsi

Medicina use:

1.Good anti-oxidant. 2. It also possesses anti ulcer, anti diarrhea 3. Kidney stones.

4.TURMERIC

Biological Name: *Curcuma longa*

Chemical Constituents:

Curcumin, desmethoxycurcumin, bisdesmethoxycurcumin volatile oil (5%) sugars, fixed oils and acids.

Medicinal property:

1. Dissolve Gallstones.
2. Dispelling worms.
3. Relieving arthritis.



Fig 7. Turmeric

Medicinal uses :

1. Anti-inflammatory.
2. Small pox.
3. Chicken pox.
4. Rheumatoid arthritis.

AIOVERA

Biological Name :Aloe barbadensis miller.

Chemical Constituents:

Amino acids, vitamin , minerals,amthraquinones.

Medicinal property:

1. Antioxidant.
2. Anti-inflammation.
3. Antihyperlipedmic.

Medicinal uses :

- 1.To treat skin problem.
- 2.Connstipation .
- 3.Managing blood sugar



Fig 8: Aloevera

ROSE Oil

Biological Name : Rosa Rubiginosa

Medicinal use :

- 1.Fragrance.
2. Smoothing agent.



Fig 9. Rose oil

AIM: FORMULATION AND EVALUATION HERBAL CREAM FOR TREATMENT SHINGLES
HERPES ZOSTER .

OBJECTIVE:

1. Reduce the amount of time that you have a shingles rash.
2. To prevent complications & long term sequelar.

PIAN OF WORK

1. Extraction Process .
2. Phytochemicals screening.
3. Formulation process.

4. Evaluation of herbal cream.
5. Result.
6. Conclusion.

Extraction Process

Collection of crude Drug.

Licorice, tulsi, neem, turmeric, aloeveragel, rose oil Collected in ayurvedicshop.

Extraction processes

1. Licorice

Maceration process used for Extraction process.

Then 15 g Licorice powder+70 ml of ethanol was taken in a volumetric flask and then shaken for 3 day. Filtered using a muslin cloth to remove impurities. Then the filtrate or the filter product in which a clear solution or clear extract of licorice was used in the preparation.



Fig10. Maceration of licorice

2.Neem :

Then 10 g neem powder+45 ml of ethanol was taken in a volumetric flask and then shaken for 3 day. Filtered using a muslin cloth to remove impurities. Then the filtrate or the filter product in which a clear solution or clear extract of neem was used in the preparation.



Fig 11. Maceration of Neem

3. Tulsi

Then 10 g tulsipowder+45 ml of ethanol was taken in a volumetric flask and then shaken for 3 day. Filtered using a muslin cloth to remove impurities. Then the filtrate or the filter product in which a clear solution or clear extract of tulsi was used in the preparation.

Fig12 :Maceration of tulsi

4Turmeric

Then 10 g turmaricpowder+45 ml of ethanol was taken in a volumetric flask and then shaken for 3 day. filtered using a muslin cloth to remove impurities. Then the filtrate or the filter product in which a clear solution or clear extract of turmaricwas used in the preparation.



Fig 12 . Maceration of turmeric

Phytochemicals screening

Curcumin Test

1. Extract + Boric acid

Observation: Reddish brown color

2. Extraction + sulphuric acid

Observation: Brown color



Fig 13. Chemical test for curcumin

Chemical test of Neem

1. Ferric chloride test

1ml extract + few drops $FeCl_3$

Observation : Greenish to black color

2. Gelatin test

1ml extract of crude drug + 1% gelatin powder

Observation : Buffer solution

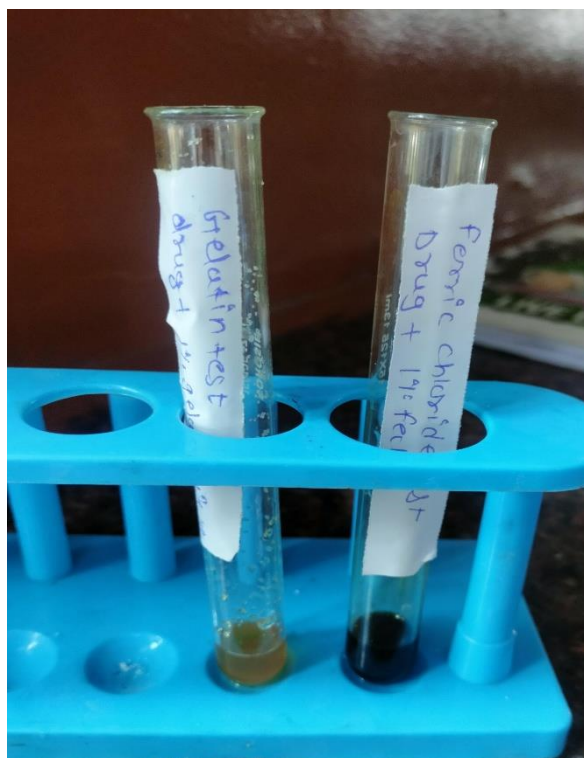


Fig 14. chemical test for Neem

Terpenoid test for tulsi

1. Liberman test

1ml of test extract + mixed with acetic anhydride boil the solution and + 0.5 ml H_2SO_4

Observation : blue color

2. LibermanBurchd test:

1ml extract ml test extract +0.5 ml chloroform in a dry test tube.+ several drops of acetic anhydride + 2 drops of concentrated H_2SO_4 and mix carefully.

Observation : Blue green to red orange color

Chemical test for Licorice

Liberman test:

1ml extract +mixed with acetic anhydrideboil the solution+0.5 ml H_2SO_4

Observation: Blue color

Libermanburchd test:

1ml extract ml test extract +0.5 ml chloroform in a dry test tube.+ several drops of acetic anhydride + 2 drops of concentrated H_2SO_4

Observation : : Blue green to red orange color



Fig 15. Chemical test for Licorice.

Formulation of cream

1. Heat liquid paraffin and beeswax in a borosilicate glass beaker at 75 °C and maintain that heating temperature. (Oil phase).
2. In another beaker, dissolve borax, methylparaben in distilled water and heat this beaker to 75 °C to dissolve borax and methylparaben and to get a clear solution. (Aqueous phase).
3. Then slowly add this aqueous phase to heated oily phase .
4. Then add a measured amount of aloe Vera gel, licorice, turmeric, Neem extract, and Tulsi extract and stir vigorously until it forms a smooth cream.
5. Then add few drops of rose oil as a fragrance.
6. Put this cream on the slab and add few drops of distilled water if necessary and mix the cream in a geometric manner on the slab to give a smooth texture to the cream and to mix all the ingredients properly.

This method is called as slab technique or extemporaneous method of preparation of cream.



Fig17. Formulation of cream

Table no 1. Formulation table

Sr. No	Ingredients	F1	F2
1.	Licorice	1.5 ml	1ml
2	Neem	0.5 ml	0.2ml
3	Tulsi	1.5 ml	1ml
4	Turmeric	0.2ml	0.5ml
5	Aloevera gel	1.5 g	1g
6	Rose oil	0.2 ml	0.5 ml
7	Liquid paraffin	10ml	15 ml
8	Methyl paraben	0.02g	0.04 ml
9	Bees wax	3g	3.5 g
10	Borax	0.4 ml	0.4 g
11.	Distilled water	1.4ml	1.86 ml
	Total	20 ml	25ml

Evaluation of herbal cream

1• Physical evaluation

In this test, the cream was observed for color, odor, texture, stat



Fig 19 formulation of cream

2•Irritancy

Mark the area (1 cm²) on the left-hand dorsal surface. Then the cream was applied to that area and the time was noted. Then it is checked for irritancy, erythema, and edema if any for an interval up to 24 h and reported

3.Wash ability

A small amount of cream was applied on the hand and it is then washed with tap water

4.pH

1 g cream was taken and dispersed in 100 ml distilled water and then PH was measure by digital PH meter



Fig20.pH meter

4.Phase separation.

Prepared cream was kept in a closed container at a temperature of 25-100 °C away from light. Then phase separation was checked for 24 h for 30 d. Any change in the phase separation was observed/checked

5.Spread ability

Sample was applied between two glass slides and was compressed to uniform thickness by placing 10gm weight for 5minutes. Weight was added to the pan. The time required to separate the two slides, i.e. the time in which the upper glass slide moved over the lower slide was taken as measure of spreadability.

Result and Discussion

1.Physical Evaluation.

Sr. No.	Parameters	F1	F2
1.	Color.	Brown	Lightbrown
2.	Odor.	Pleasant	Pleasant
3.	Texture	Smoothing.	Smoothing
4.	State.	Semi solid.	Semi solid

2.Irritancy

Sr.no	Formulation	Irritancy effect
1.	F1H	Nil
2.	F2H	Nil

3.Wash ability

Wash ability test was carried out by applying a small amount of cream on the hand and then washing it with tap water. All three formulations were easily washable.

Sr.no	Formulation	Wash ability
1.	F1	Easily washable
2.	F2	Easily washable

4.pH

The PH of all the two formulations that is F1H, F2H were found to be nearer to skin PH so it can be safely used on the skin.

Sr.no	Formulation	pH
1.	F1H	6.4
2.	F2H	6.2

5..Phase Separation.

Prepared cream was kept in a closed container at a temperature of 25-100 °C away from light. Then phase separation was checked for 24 h for 30 d. Any change in the phase separation was observed/checked. According to the results no phase separation was observed in all the two formulation .



Fig. 22.

F1H.

F2H

CONCLUSION

By using licorice, Turmeric, Aloe Vera gel, Neem and Tulsi the cream showed a anti viral effect show all these herbal ingredients showed significant different activities. Based on results and discussion, the formulations F1H, F2H were stable at room temperature and can be safely used on the skin.

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- 13) Sushant . j .Hewlingsby A review on its effect of human health page no 9
- 14) Amar Surjusheet al , Aloevera gel short review on in this paper The aloe vera plant, its properties, mechanism of action and clinical uses are briefly reviewed in this article page no 163- 166