

Formulation and Evaluation of herbal cream as wound healing activity

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ABSTRACT:

Now, a day's herbal cosmetics are product which are widely used in world in every generation. The goal of the research was to develop a herbal cream healing the wound and treating various skin disease and moisturizing, nourishing the skin. The basic drugs used to make the cream. Extract moringa leaves (*Moringa oleifera*), Extract of turmeric rhizomes (*curcuma longa*), aloe-vera (*Aloe barbadensis miller*), neem leaves (*Azadirachta Indica*), Tulsi (*Ocimum sanctum*), papaya oil (*Carica papaya*) they have anti-inflammatory and antiseptic property helpful against disease, wound healing, enzymes action and give multipurpose affect. Various parameters are used to the cream.

KEY WORDS:Herbal formulation, Herbal drug, Moringa leaves.

I. INTRODUCTION:



Skin is a major part of human body. Hence the herbal cream has the easy to apply on your any damage skin area. The herbal formulation are semi-solid water in oil type of emulsion. These semi-solid dosage form intended for topical application to the skin or it help healing wound and treating various skin disease and keep skin healthy. The choice of these ingredients is based on their individual properties like healing wound, anti-inflammatory and antiseptic property enzymes action and give multipurpose affect.

[1, 5].Cream:




Cream is mostly use to protect the skin in various Environmental condition and give soothing effect to skin. There are different type of cream like cleansing, cold, foundation, vanishing, night cream, massage cream, hand and body cream.

II. MATERIAL AND METHOD:

Table 1: Materials used for formulation:

Sr.no.	Name of crude drug	Botanical name	Uses or benefits	Picture
1	Moringa leaves	Moringa oleifera	Useful in wounds, tumors, inflammation and helminthiasis.	
2	Turmeric rhizomes	Curcuma longa	Help wound healing, antimicrobial agent, improve skin health, anti-inflammatory and antiseptic	

3	Aloe - vera	Aloe barbadensis miller	Soothing irritated skin, hydrated the skin, moisturize dry skin.	
4	Neem leaves	Azadirachta Indica	Relives skin dryness promotes wound healing, increase blood circulation, anti-inflammatory, prevent skin infection, keep skin healthy.	
5	Tulsi	Ocimum sanctum	Antibacterial, add glow, good for skin health. Great for healing skin. Good source of vitamin k	
6	Papaya oil	Carica papaya	Anti-inflammatory, enzymes action, remove dead skin cells, soothing irritated skin, skin healing, full of vitamin and minerals, cures skin infection, anti -oxidant.	
7	Bees wax		Emulsifying agent	
8	Liquid paraffin		Lubricating agent	

9	Borax		Alkaline agent	
10	Methyl paraben		Preservative	
11	Distilled water		Vehicle	
12	Rose oil		Fragrance	

III. METHODS:

[1].Extraction method:

Preparation of moringa leaves extract

Take 2gm moringa leaves powder in 10ml Distilled water and shaken in 250ml volumetric flask then heated in water bath at 80⁰ c to 90⁰ c for 5 - 10 minutes. Then filter it and moringa leaves extract is obtained.

Preparation of turmeric extract

Take 1gm of turmeric powder in 10ml Distilled water and shaken in 250ml volumetric flask heated in water bath at 80⁰ c to 90⁰ c for 5 - 10 minutes. Then filtered it and turmeric extract is obtained.

Preparation of aloe-vera extract

Collect matur and fresh aloe-vera leaf from plant and washed it with Distilled water. Dried it is hot air oven. Leaf dissected longitudinally by sterile knife. The semi-solid aloe-vera is collected. Remove fibers and impurities from it. Aloe-vera extract is obtained.

Preparation of neem extract

Collected fresh neem leaves and wash it with Distilled water. Dried it in hot air oven and then powder take 5gm neem powder in 20ml dimethyl sulfoxide at 100⁰ c for 5 - 10 minutes.

Then filter it by filter paper and neem extract obtained.

Preparation of Tulsi extract

Tulsi leaves were collected and washed with Distilled water and dried in hot air oven then after proper drying the leaves were powdered. Then 1gm Tulsi leaf powder in 10ml dimethyl sulfoxide was taken in a volumetric flask then heated on water bath at 80⁰ c to 100⁰ c for 5 - 10 minutes then filter the solution use by filter paper and clear extract of Tulsi leaves.

Preparation of ripe papaya extract (papaya oil)

To make the papaya oil, take a tablespoon of every finely cut. Ripe papaya piece in a bowl, add in 2 tablespoon of any unrefined oil of your choice. Now take the bowl and place it over a pan of bowl with the oil should not touch the water in the bottom bowl and flame should be on the lowest possible setting the entire time we're making the oil. Continue cooking like this for 30 minutes using double boiler method will help preserve to top up with water every 10 minutes. After 30 minutes remove the top bowl and strain out the oil. Now you make the papaya oil is obtained.

[1, 4].Preparation methods of cream:

Take the liquid paraffin and bees wax in a borosilicate glass beaker at 75⁰ c and maintain that heating temperature (oil phase). In other beaker,

dissolve Borax and Methyl paraben in distilled water by maintaining temperature 75⁰ c with water bath. Stir the solution with glass rod until all solid particles get dissolve (aqueous phase). Then gently add heated aqueous phase in heated oily phase with continue stirring. After mixing both phase, immediately add moringa extract, aloe-vera extract, neem extract, Tulsi extract, and turmeric extract, and add ripe papaya into it with continue stirring or

mixing by glass rod until it forms a smooth cream. When cream is formed, then add rose oil as fragrance. Put this cream on 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.

Table 2: Formulation table

Sr.no.	Ingredients	Formulation 1	Formulation 2	Formulation 3
1	Moringa extract	5ml	4.5ml	5.5ml
2	Turmeric extract	2.7ml	1.42ml	1.67ml
3	Papaya oil	2.7ml	1.67ml	1.47ml
4	Aloe-vera extract	2.8ml	1.47ml	1.67ml
5	Tulsi extract	1.7ml	1ml	1ml
6	Neem extract	0.9ml	0.28ml	0.67ml
7	Bees wax	5.45gm	4.97gm	5.36gm
8	Liquid paraffin	18.1ml	21.32ml	20.7ml
9	Borax	0.36gm	0.56gm	20.1gm
10	Methyl paraben	0.03gm	0.59gm	0.50gm
11	Distilled water	q.s.	q.s.	q.s.
12	Rose oil	q.s.	q.s.	q.s.

Figure 1: Formulation 1

Formulation 2

Formulation 3



[1, 2, 3 &10].EVALUATION OF HERBAL CREAM

1) Physical parameters

In this test colour, odor, texture, and state of cream are observed.

2) Irritancy test

Mark the area on the left hand dorsal surface. Then the cream was applied to the area and the time noted. After interval up to 24 hours. It is checked for irritant effect erythema and edema if any than reported.

3) Wash ability

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

4) Phase separation

Prepared cream is kept in tightly closed container at room temperature away from sunlight and observed for 24 hours for phase.

5) pH

Take 0.5g of cream and dispersed it in 50ml Distilled water. Then check its pH by using digital pH meter.

6) Spread ability test

Spredability is carried out for all three formulation that is formulation 1, formulation 2, and formulation 3. The less time take for the separation of both the slide better the spread ability.

Table 3: Evaluation test for herbal cream

Sr.no.	Evaluation test	Formulation 1	Formulation 2	Formulation 3
1	Physical parameters : Colour Odour Texture State	Yellowish green Pleasant Crystal Semi-solid	Light yellow Pleasant Smooth Semi-solid	Yellowish green Pleasant Smooth Semi-solid
2	Irritancy test	No irritation	No irritation	No irritation
3	Wash ability test	Easily washable	Easily washable	Easily washable
4	Phase separation test	No phase separation	No phase separation	No phase separation
5	pH test	7.52	7.50	7.54
6	Spreadability test	Easily spread	Easily spread	Easily spread

IV. RESULT AND DISCUSSION:

Formulation and Evaluation of herbal cream as wound healing is prepared and evaluated. Based on the evaluation parameters the formulation is stable at room temperature and can be safely used on skin. It is used to softening of skin, anti-inflammatory and antiseptic and the moringa olifera and ocimum sanctum has wound healing activity.

V. CONCLUSION:

By using moringa leaves, turmeric rhizomes, papaya oil, aloe-vera, neem leaves, Tulsi leaves the cream showed wound healing and multipurpose effect and all herbal ingredients were used showed different significant activity based on the result. We can say that all formulation formulation 1, formulation 2, formulation 3 were stable at room temperature and can be safely used on the skin.

The cream was prepared by using simple ingredients and simple method so the cream is also economical.

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