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FORMULATION AND EVALUATION OF HERBAL HEEL CRACK CREAM

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ABSTRACT

The objective of this research was to formulate a cream for the treatment of cracked Heels using Hibiscus leaves extract and Aloe Vera as a key ingredient. The cream formulation, comprising Hibiscus leaves extract, Aloe vera juice, coconut oil and beeswax was prepared and evaluated for various parameters including physical evaluation, pH, spread-ability, stability, viscosity and washability. The used product is compatible with other ingredients present in the formulation.

KEYWORDS

Cracked heels, Herbal heel crack cream and Hibiscus leaves extract.

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INTRODUCTION

Feet are an important organ of the human body and are exposed to high friction and the external environment. The lack of a sebaceous gland on foot predisposes it to dry skin. Negligence of the feet can lead to various disorders generally due to improper footwear and one can suffer from infections because of external penetration of dirt, fungi and bacteria through these cuts and wounds. Plants and their extracts have enormous potential for healing and healing wounds.



Figure No.1: Cracked heels

Causes

Cracked heels have no age limit and can affect anyone regardless of sex, colour, or origin. Most of the time Age, walking on uneven surfaces, prolonged Standing on hard floors, uncomfortable or ill-fitting footwear, unhealthy diet, obesity, diabetes, etc, are common.

Definition

Creams are semisolid emulsion system with opaque Appearance as contrasted with translucent ointments. Cream is used for external purpose. These preparations are utilized for the localized effects produced at the site of their application by drug penetration into the underlying layer of the skin or mucous membrane. Their consistence depends on whether the,

Emulsion is water in oil or oil in water

Nature of solids in internal phase.

Skin care creams can be classified on different basis According to function. E.g. cleansing, foundation, massage etc.

According to characteristic properties, e.g. Cold creams vanishing creams etc.

According to nature or type of emulsion.

Skin nourishment is important and required to Preserve the normal characters of the skin or as a treatment for dry skin.

MATERIAL AND METHODS

Selection and collection of herbal ingredients

Select the bioactive compounds plants and identify herbal ingredients extracts known for their Wound Healing properties based on traditional knowledge and scientific literature. Hibiscus leaves, Aloe vera, Coconut oil, beeswax, and herbal ingredients washed with distilled water.

Extraction from herbal ingredients

Collect the fresh leaves of hibiscus and wash it with distilled water and dried it for 4-5 days After proper drying, Leaves were powdered. Then take 50gm leaves powder in 250ml ethanol, and soak for 48hrs. Then Filter it by filter paper or any cotton cloth and clear extract of hibiscus leaves is obtained.

Procedure for preparation of herbal heel crack cream

Step 1

Preparation of oil phase

Heat Coconut oil/mineral oil and beeswax in a Porcelain China dish at 70°C and maintain that heating temperature.

Step 2

Preparation of aqueous phase

In beaker, dissolve glycerine, methyl paraben in distilled water and heat this beaker to 70°C to dissolve glycerine and methyl paraben to get a clear solution.

Step 3

Addition of aqueous phase to oil Phase

Then slowly add this aqueous phase to heated oily phase with continuously stirring.

Step 4

Addition of extract

Then add a measured amount of Hibiscus leaves extract, and Aloe Vera extract and stir vigorously until it forms a smooth cream. 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.

Table No.1: Formulation table

S.No	Ingredients	F1	F2	F3	Uses
1	Hibiscus leaves extract	10%	10%	10%	Wound healing property
2	Aloe vera juice	4%	4%	4%	Skin hydration
3	Coconut oil	4	-	2	Moisturizing property
4	Mineral oil	-	4	2	Gives consistency
5	Bees wax	7	7	7	Emollient
6	Glycerin	1	1	1	Humectant
7	Methyl paraben	0.06	0.06	0.06	Preservative
8	Triethanolamine	0.42	0.42	0.42	pH adjusting agent
9	Distilled water	5	5	5	Solvent

FORMULATION AND EVALUATION

Physical appearance

The physical appearance of the cream can be watched by its colour, harshness and graded.

Spread-ability

Satisfactory amount of sample is taken between two glass slides and a weight of 100gm is connected on the slides for 5 minutes.

pH estimation

The pH of the 10 % w/v cream suspension was decided at 25 °C utilizing a pH meter, standardized utilizing pH 4.0 and 7.0 standard buffers some time recently utilize and normal of triplicates were determined.

Wash-ability

A little sum of cream was connected on the hand and it is at that point Washed with tap water.

Viscosity

It determine the consistency of crack cream. Viscosity is determining by Brookfield viscosity meter.

Spread-ability

The Spread-ability of samples was determined by taking 0.25g cold cream formulation was Placed on a glass slide over which a second glass plate was placed. A weight of 100g was allowed to rest on the upper glass slide for 5 min. Spread-ability (S) = $M \cdot L / T$.

Homogeneity

The formulation was tested for the homogeneity by visual appearance and by touch.

Table No.2: Evaluation parameters

S.No	Parameters	F1	F2	F3
1	Colour	Light green	Light green	Light green
2	Odour	Odourless	Odourless	Odourless
3	Homogeneity	Homogeneous	Homogeneous	Homogeneous
4	Appearance	Smooth	Smooth	Smooth
5	pH	5.1	5.2	5.1
6	Viscosity	7824	9423	3319
7	Spreadability	Poor	Poor	Good
8	Washability	Washable	Washable	Washable

RESULTS AND DISCUSSION

In the present study, skin cream was prepared using the Hibiscus leaves. The prepared formulation is then evaluated for parameters like physical properties, pH, viscosity, spread-ability, stability of the formulated cream.

CONCLUSION

Herbal heel crack cream containing hibiscus leaves extract and Aloe Vera juice was prepared using general method for preparation of cream. All F1, F2 and F3 Formulations are stable at room temperature. The spread-ability and viscosity of Formulation F3 is greater as compared to F1 and F2. The formulation F3 was selected as an optimized formulation on the basis of results of spread-ability and viscosity.

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CONFLICT OF INTEREST

We declare that we have no conflict of interest.

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