



FORMULATION AND EVALUATION OF HERBAL COLD CREAM WITH INCORPORATED 'SARIVA HEMIDESMUS INDICUS'

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Abstract:

The demand for herbal cosmetic is growing in the world market and is an invaluable gift of nature. Herbal skin cosmetics are formulated using different herbal active ingredients, which are further incorporated in cosmetic base to nourish and cure various skin ailments. The main objective of the present work is to formulate herbal cold cream using *SarivaHemidesmusIndicus* and *vetiveriazizanioides*. *Hemidesmusindicus*, Indian sarsaparilla is a species of plant found in South Asia and belongs to the family *Asclepiadaceae*. Sariva as a preventive and curative property and act as a coolant, antioxidant and improves the skin texture and usefull against skin allergies. *Vetiveriazizanioides*, commonly known as vetiver and khus,is a perennial bunchgrass of the family *Poaceae*. Vetiver used as natural coolant, cleanser, and also keeps skin hydrated and also have antibacterial and antimicrobial properties, fight against acne,blisters and rashes.

Keywords :*SarivaHemidesmusIndicus* ,sariva,*vetiveriazizanioides* , Indian sarsaparilla ,Lavncha.

Introduction:

The usage of herbal products as cosmetics is increasing in modern era herbal cosmetics are given more priority because of their less side effects compared to synthetic products and it shows good effect on application. An herb is a plant or plant extract including leaves ,bark , berries ,roots ,seeds ,stems and flowers , which are having many properties like anti inflammatory , antibacterial , antiseptic , emollient and many other Thus , there is a wide range of demand for herbal cosmetics in skin care system and also herbs are easily available from nature .The natural content present in the herbs does not have any toxic effects on human body instead it provides useful minerals. such that cosmetics are used to beautify and cleanse the skin. Herbs have the advantage of having less harmful effect on the skin ,easy availability , relatively more safe. Cold cream is an emulsion of water and certain fats, usually including beeswax and various scent agents, designed to smooth skin and remove makeup. Cold cream is an emulsion of water in a larger amount of oil, unlike the oil in water emulsion of vanishing cream, so-called because it seems to disappear when applied on skin. The demand for herbal cosmetic is growing in the world market and is an invaluable gift of nature. Herbal skin cosmetics are formulated using different herbal active ingredients, which are further incorporated in cosmetic base to nourish and cure various skin ailments. The botanical name of Sariva plant is *Hemidermusindicus* and it belongs to the family *Asclepiadaceae*(*periplocaceae*) . Sariva is a well knownherb , it is mainly used in ayurveda for its various therapeutic uses. Sariva is also known as Indian sarasaparillaIt is different from sarasaparilla. It is also used in medicinal system for various health ailment . Due to more availability of tonic herb it is adulterated because of its more use as an antibacterial , Indian sarasaparilla

treats skin disease and promote skin healing. Chemical in sarasaparilla might help decrease pain and swelling. Some chemicals might also kill cancer cells or slow down this growth. Sariva is known for its cooling and rejuvenating in ayurveda a rasayan . Saliva is used in formulations for its preventive and curative property . It act as a coolant , diuretic and detoxifier. Sariva is used in combination with lavancha as it increases its cooling properties. Vetiver is directly applied on skin for relieving stress and it can be also for arthritis, stings and burns. The vetiver plants helps to reduce inflammation and redness of the skin and

face and also help to cure sunburns. The lavancha plant contains antioxidants, which controls the skin's signs of premature ageing. Regular use of khus oil in different forms can make the skin youthful and firm. Being a natural product, vetiver uses are versatile. It is gentle on the skin and can be used by people who have sensitive skin.



Sariva Powder Lavancha Powder

2. Materials and Methodology

Materials:

1. Herbal drug :Sariva and vetiveria
2. Emulsifier : Borax
3. Stiffening agent : Beeswax / white wax
4. Vehicle : Purified water and mineral oil
5. Preservatives : Methyl paraben /propyl paraben
6. Flavoring agent : Rose oil
7. Humectant :glycerine

Methodology:

Oil phase is prepared by using White Wax/ White Beeswax and Mineral oil (Liquid paraffin) were melted in a glass or SS beaker at 40°-50°c and mixed and Aqueous phase is prepared by using Methylparaben, propylparaben, tween-80, borax, and glycerin were dissolved in water in another beaker at temperature 40°-50°C. and then Adding of aqueous phase to oil phase .The oil phase was then added to the aqueous phase with continuous stirring until it has cooled to about 45°C. Then fragrance was added then required amount of sariva and lavancha were added with continuous stirring. Homogenization of the cream by a homogenizer and congealing and at last filling, labeling, and packaging.

3. Formulation of herbal cold cream using Sariva and Lavancha:

SL.NO	Ingredients	Quantity	Role of ingredients
1	Beeswax	10g	Emollient
2	Liquid paraffin	30g	Emollient
3	Borax	0.8g	Emulsifying agent
4	Water	10ml	Vehicle
5	Methyl paraben	0.18g	Preservative
6	Rose oil	2ml	Flavoring agent
7	Sariva	0.1g	Herbal drug
8	Lavancha	0.1g	Herbal drug

4. Evaluation test:

1. **Physical properties:** The Physical properties of the prepared cream were judged by colour, odour, texture.
2. **Homogeneity:** The homogeneity of the prepared cream was decided by the visual appearance and Touch.
3. **Washability:** The prepared cream was applied on the hand and observe under the running water.
4. **Spread ability test:** The prepared cream sample was applied between the two glass slides and was Compressed between the two glass slides to uniform thickness by placing 100 g of weight for 5 minutes then weight was added to the weighing pan. The time in which upper glass slide moved over the lower glass slide was taken as a measure of spread ability = $m \times l/t$
Where ; m = weight tight to upper slide l = length moved on the glass slide t = time taken
5. **Type of smear:** After application of herbal cream the type of smear or film formed on the skin was checked.
6. **Dilution :** In this dilution test type of emulsion is determined by diluting the formulated sample either with water or oil. The emulsion is completely miscible with water. If it is o/w type, as the dispersion medium is water and separates out if it is w/o type Of emulsion. Similarly, w/o type of emulsion is miscible, if the emulsion is dissolved in oil but o/w type of emulsion is immiscible in oily liquid.
7. **Dye solubility test:** In this test a water soluble dye (amaranth) and an oil soluble dye (Sudan III) are used to determine the type of emulsion. Firstly, the emulsion (cream sample) is mixed with amaranth and observed under the microscope. If the continuous phase appears red, then it is o/wtype of emulsion and the dye dissolves to give color. If there is appearance of red globules and colorless continuous phase, then it is w/o type of emulsion. Likewise, if Sudan III is mixed with an emulsion and if there is appearance of red continuous phase, then it is w/o type of emulsion.
8. **Dye test :** The Scarlet red dye is mixed with the prepared cream place a drop of cream in a Microscope slide then cover it using cover slip and observe it under a microscope . If the disperse globules appear red the ground colourless the cream is oil in water type. The reverse condition occurs in a water in oil type cream i.e. the disperse globules appear colourless.
9. **pH test:** The pH meter was calibrated by using standard buffer solution. weight 0.5g of cream dissolve it in 50 ml of distilled water and measure its pH by using digital pH meter.
10. **Acid value:** Weight & Take 10g of formulated cream dissolved in accurately weighed in 50 ml mixture of equal volume of alcohol and solvent ether. Then attached to the flask with the condenser and reflux it with the slow heating until the sample gets dissolve and then add 1 ml of phenolphthalein then titrate it with 0.1 N NaOH until it gets faint pink colour after shaking it 20 seconds.
Acid value = $n \times 5.61/w$
Where ; w = weight of the substances, n = the number of ml in NaOH required.
11. **Saponification value:** Weight and take 2g of the prepared cream and then add 25 ml of 0.5 N alcoholic KOH and reflux it for 30 minutes. Then add 0.1 ml of phenolphthalein as a indicator and titrate it with the 0.5 N HCl.
saponification value = $[b-a] \times 28.05/w$
where ; a = volume of titrate, b = volume of titrate. w = weight of substances in gram.

12. Viscosity test: The viscosity of the formulated cold cream was determined by using Brookfield viscometer. Spindle number S-64 at 20 rpm was used at a temperature of 25°C and it was determined by taking an average of three readings.

5. Result and discussion

Prepared herbal formulation was pale brown in colour. It has pleasant smell and texture was smooth.

1. Physical properties: The physical properties of herbal formulated cream was concluded by colour, odour and texture

SL.NO	Parameter	Evaluation
1	Colour	Brown
2	Odour	Pleasant
3	Texture	Smooth

2. Homogeneity test: The homogeneity of the herbal cold cream was concluded by the visual appearance and touch. The touch and appearance was good.

3. Washability: The herbal cream was applied on the skin and held under tap water it was easily removed.

4. Spread ability: The spread ability test exhibit that the formulated herbal cream has good spread ability property.

5. Type of smear of cream: The formulated herbal cream for smear test exhibit greasy.

Type of emulsion

The herbal cold cream was found to be W/O of emulsion by dilution test, dye test and dye solubility test.

Parameters	Observation
6. Dilution test	W/O type emulsion
7. Dye solubility test	W/O type emulsion
8. Dye test	W/O type emulsion

9. pH of the cream: The pH of the herbal cream found to be in the range of 5.6 to 6.8 is good for skin pH. The formulated herbal cream shows the pH 6.42 which is good for skins pH.

10. Acid value: The result of acid value for the formulated herbal cream was shown in the below table and showed the satisfactory values.

11.Saponification value :The result of the saponification value for the formulated herbal cream was shown in the below table and showed the satisfactory values.

SL NO	Parameter	Evaluation
1	Acid value	20.6
2	Saponification value	3.8

12. Viscosity test : Viscosity of the formulated herbal cream was determined by brook field viscometer at 20rpm using spindle no. S-64. The viscosity of the herbal cream was in the range of 499990 to 30000cp indicates that the cream easily spreadable.

The formulated herbal formulation shows the viscosity range i.e, 47866cp.

6. Conclusion

Formulation of herbal cold cream was successfully developed that met the important drug qualities. The formulated cold cream showed good consistency, spreadability, non greasy, homogeneity and no evidence of phase separation during the study period. The Other stability parameters like visual appearance, viscosity, nature and pH of the prepared cream showed that there was no huge variation during the period of study and the cream was showed that it can be easily washable with the plain water after application. Hence, From the above study it can be concluded that cold cream is safe to use as it is formulated from the herbal.

6.Acknowledgement

We thank Principal and management of Sarada vilas college of Pharmacy, Mysuru for providing necessary laboratory requirement and encouragement.

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