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RESEARCH ARTICLE

Preparation and Characterization of Polyherbal Face Cream

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ABSTRACT

The present research work is an attempt to develop a cream based on the Neem extract, Aloe juice, Haldi Extract, Amba Haldi extract, Khas and Rose water. Selected plant parts were dried and extracted using water by maceration .Quality evaluation of the product was assessed by using different evaluation methods. No change of the physical properties was observed the pH was in a proper range. The formulation showed good spread ability, no evidence of phase separation and good consistency during the study period. Stability parameters like visual appearance, nature, viscosity and fragrance of the formulations showed that there was no significant variation during the study period. combining the extracts of the Neem extract, Aloe juice, Haldi Extract, Amba Haldi extract, Khas in different ratio to get multipurpose effect such as whitening, ant wrinkle, ant aging and sunscreen effect on skin. As we know that it is not possible to increase the extent of efficiency of medicinal and cosmetic property of single plant extract, but by combining the different plant extracts it can be possible to increase the efficacy of extracts.

Key words: Cosmetics, Herbal Cosmetics, Food and Drug administration, Skin.

INTRODUCTION

Cosmetic for skin

Cosmetics, also known as make-up, are substances or products used to enhance the appearance or fragrance of the body. Many cosmetics are designed for use of applying to the face and hair. In the 21st century, women generally use more cosmetics than men. They are generally mixtures of chemical compounds; some being derived from natural sources (such as coconut oil), and some being synthetics. Common cosmetics include lipstick, mascara, eye shadow, foundation, rouge, skin cleansers and skin lotions, shampoo, hairstyling products (gel, hair spray, etc.), perfume and cologne .In the U.S., the Food and Drug Administration (FDA), which regulates cosmetics, defines cosmetics as "intended to be applied to the human body for cleansing, beautifying, promoting attractiveness, or altering the appearance without affecting the body's structure or functions". This broad definition includes any material intended for use as a component of a cosmetic product. The FDA specifically excludes soap from this category. [1]

Herbal cosmetics

Herbal cosmetics also known as “natural cosmetics”. With the beginning of the civilization, mankind had the magnetic dip towards impressing others with their looks. At the time, there were no fancy fairness creams or any cosmetic surgeries. The only thing they had was the knowledge of nature, compiled in the Ayurveda. With the science of Ayurveda, several herbs and floras were used to make Ayurvedic cosmetics that really worked. Ayurvedic cosmetics not only beautified the skin but acted as the shield against any kind of external affects for the body. [2]

Ayurvedic cosmetics also known as the herbal cosmetics have the same estimable assets in the modern era as well. There is a wide gamut of the herbal cosmetics that are manufactured and commonly used for daily purposes. Herbal cosmetics like herbal face wash, herbal conditioner, herbal soaps, herbal shampoo, and many more are highly acclaimed by the masses.
The best thing of the herbal cosmetics is that it is purely made by the herbs and shrubs. The natural

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content in the herbs does not have any side effects on the human body; instead enrich the body with nutrients and other useful minerals. Herbal cosmetics are comprised of floras like Ashwagandha, sandal (chandan), saffron (kesar) and many more that is augmented with healthy nutrient sand all the other necessary components.
Cosmetics are the products in which herbs are used in crude or extract form. The basic idea of skin care cosmetic lies deep in the Rigveda, Yajurveda, Ayurveda, Unani, Homeopathic system of medicine. In this modern era, knowledge of usage of herbs is being blend with advanced cosmetic technology to develop a safe, elegant beauty product, which has wider range of people acceptability. Basically it is beauty invented by nature & perfected via technology. [3]

Herbal cream

Herbal cosmetics are the preparations used to enhance the human appearance. [4]
Herbal cosmetic also known as "natural cosmetics". With the beginning of the civilization, mankind had the magnetic dip towards impressing others with their looks. At the time, there were no fancy fairness creams or any cosmetic surgeries. The only thing they had was the knowledge of nature, compiled in the ayurveda. With the science of ayurveda, several herbs and floras were used to make ayurvedic cosmetics that really worked. Ayurvedic cosmetics not only beautified the skin but acted as the shield against any kind of external affects for the body. [5]

Herbal cosmetics are the products in which herbs are used in crude or extract form. The basic idea of skin care cosmetic lies deep in the Rigveda, Yajurveda, Ayurveda, Unani and Homeopathic system of medicine. [6]

Herbal Skin Care Products: Lavender Silk Soaps, Lotions creams, Body powder**,** Lavender Herbal body powder, Skin Care Creams. [7]

MATERIALS AND METHODS

Preparation of extracts

Air dried and coarsely powdered (100gm) of crude drug placed in Soxhlet extractor separately and run for 6 hours at 50^0c using distilled water. The extracts were as a solvent filtered and concentrated to dryness.

Table 1: preparation of extracts

S. No	Herbal extract	Quantity (%)
1	Neem extract	1
2	Aloe juice	2
3	Haldi extract	0.5
4	Amba haldi extract	0.5
5	Khas	1
6	Rose water	0.5

Preparation of cream base [8-11]

Oil in water (O/W) emulsion-based cream (semisolid formulation) was formulated. The emulsifier (stearic acid) and other oil soluble components (Cetyl alcohol, almond oil) were dissolved in the oil phase (Part A) and heated to 75° C. The preservatives and other water soluble components (Methyl paraban, Propyl paraban, Triethanolamine, Propylene glycol) were dissolved in the aqueous phase (Part B) and heated to 75° C. After heating, the aqueous phase was added in portions to the oil phase with continuous stirring until cooling of emulsifier took place. The formula for the base is given in (**Table 1&2**).

Table 2: Composition of base

S. No	Ingredients	F_1	F_2
1	Stearic acid	18	16
2	Cetyl alcohol	3	4
3	Castor oil	4	4
4	Glycerol	3	3
5	Methly paraben	0.02	0.02
6	Triethanolamine	qs	qs
7	Water (qs) 100	qs	qs

Drug formulation

The appropriate base was selected and two different creams were formulated. The emulsifier (stearic acid) and other oil soluble components (Cetyl alcohol, almond oil) were dissolved in the oil phase (Part A) and heated to 75° C. The preservatives and other water soluble components (Methyl paraban, Propyl paraban, Triethanolamine, Propylene glycol, all extracts) were dissolved in the aqueous phase (Part B) and heated to 75° C. After heating, the aqueous phase was added in portions to the oil phase with continuous stirring until cooling of emulsifier took place.

Evaluation parameter

- **pH of the Cream**
  The pH meter was calibrated using standard buffer solution. About 0.5g of the cream was weighed and dissolved in 50.0 ml of distilled water and its pH was measured.
- **Viscosity**
  Viscosity of the formulation was determined by Brookfield Viscometer at 100 rpm, using spindle no.4.
- **Dye test**
  The scarlet red dye is mixed with the

cream. Place a drop of the cream on a microscopic slide covers it with a cover slip, and examines it under a microscope. If the disperse globules appear red the ground colourless. The cream is o/w type. The reverse condition occurs in w/o type cream i.e. the disperse globules appear colourless in the red ground.

- **Homogeneity**
  The formulations were tested for the homogeneity by visual appearance and touch.
- **Appearance**
  The appearance of the cream was judged by its colour, pearlscence and roughness and graded.
- **After feel**
  Emolliency, slipperiness and amount of residue left after the application of fixed amount of cream was checked.
- **Type of smear**
  After application of cream, the type of film or smear formed on the skin were checked.
- **Removal**
  The ease of removal of the cream applied was examined by washing the applied part with tap water.
- **Saponification value**
  Introduce about 2 gm of substance refluxed with 25 ml of 0.5 N alcoholic KOH for 30 minutes, to this 1 ml of phenolphthalein added and titrated immediately, with 0.5 N HCL.
  Saponification value = (b-a)*28.05/w
  a - volume in ml of titrant,
  b - Volume in ml of titrant,
  w - Weigh of substance in gm
- **Irritancy test**
  Mark an area (1sq.cm) on the left hand dorsal surface. The cream was applied to the specified area and time was noted. Irritancy, erythema, edema, was checked if any for regular intervals up to 24 hrs and reported.
- **Accelerated stability testing**
  Accelerated stability testing of prepared formulations was conducted for 2 most stable formulations at room temperature, studied for 7 days. They were formulation number 1 and 2 at 40 ± 10^0 C for 20 days. The formulations were kept both at room and elevated temperature and observed on 0th, 5th, 10th, 15th and 20th days.

RESULTS

Evaluation of Cream

From above study, the F_1 base was selected for the preparation of herbal cream. The two different cream namely F_1 & F_2 comprising of different concentration of the extracts. The composition of cream illustrated on (Table 1&2). The physical evaluation and stability of herbal is shown in (Table 3,4&5), and results were considerable and acceptable.

- **pH of the Cream**
  The pH of the cream base was found to be in range of 6.2-6.9 which is good for skin pH. All the formulations of cream base were shown pH nearer to skin required (**Table 3**).

Table: 3 pH **of Cream**

S. No	Formulation	pH
1	F_1	6.8 ±2.05
2	F_2	6.7 ±1.74

- **Viscosity**
  The viscosity of was cream was 226666.667 cps which indicates spreadibilty of cream. In our study F_1 depicted easily spreadable by small amounts of shear.
- **Irritancy test**
  The formulation F_1 & F_2 shows no redness, edema, Inflammation and irritation during irritancy studies. These formulations are safe to use for skin.
- **Dye test**
  This dye confirms that all formulations were o/w type emulsion cream. But formulation (F_2) shows more stable in o/w type emulsion. So here we select F_2 cream base for further study.
- **Homogeneity**
  All formulations of base produce uniform distribution in cream. This was confirmed by visual appearance and by touch.
- **Appearance**
  When formulation were kept for long time, it found that no change in color of cream base.
- **After feel**
  Emolliency, slipperiness and amount of residue left after the application of fixed amount of cream base was found.
- **Type of smear**
  After application of cream base, the type of smear formed on the skin were non greasy.

- **Removal**
  The cream applied on skin was easily removed by washing with tap water.

Evaluation parameters of cream

Different evaluation of cream was done on the creams which are as follows-:

Table 4: Evaluation Parameters

S. No	Parameter	Result	
		F1	F2
1	PH	6-7	6-7
2	Spreadability	Good	Good
3	Homogeneity	Good	Good
4	Photosensitivity	Appearance Change	Appearance
5	Skin sensitivity test	Insensitive	Insensitive
6	Appearance	Pale Yellow	Pale Yellow
7	Odour	Characteristics	Characteristics

- **Viscosity**
  By Brookfield viscometer

Table 5: Viscosities

S. No	RPM	Viscosity
1	2	226666.667 cps
2	0.5	246666.667 cps

DISCUSSIONS

Fairness cream has emerged in the last 50 years to improve complexion Fairness is considered equal to attractiveness. Melanin is one of the reasons for dark complexion. Melanin is primary determinant of "melanocytes" that are located in the epidermis. The increased production of melanin is human skin is called "melanogenesis". Fairness cream blocks sun rays and prevent secretion of melanin, which gives dark color to skin. Herbal medicine are being used by about 80% of the world population primarily in the developing countries for primary health care .They have stood the test of time for their safety, efficacy, cultural acceptability and lesser side effect. Hence keeping this mind we planned to prepare herbal cream which produce fairness property with minimum side effects. Our study indicated that the base F_1 found to be more stable, while remaining base were not stable and resulted in breakdown of the emulsion when stored for long time. So that base F_1 was appropriate for development of herbal cream comprising of different ratio of extracts (F1&F2) hence we prepared herbal cream by mixing all the extract in this base. The pH of prepared cream was nearer skin pH, and cream produces homogeneous, emollient, non-greasy and easily removed properties after the application. The herbal creams (F1&F2) were safe in respect to skin irritation and allergic sensitization. The prepared herbal fairness cream is intended for cosmeceutical use rather than as other cosmetic. These studies suggest that herbal fairness creams are more stable and also it may produce synergistic action.

CONCLUSION

Herbal fairness cream is one of the most preferred cosmetic product has now created strong impact in our life. Herbal cream has several advantages over the synthetic cream. Several herbal ingredient offers antioxidant, antiwrinkle, imparts glow and fairness to skin in this study we formulate and evaluate polyherbal cream by using neem extract, aloe juice, haldi extract, amba haldi extract, khas, rose, water which gives better stability and efficacy. Further study is to be needed to test the pharmacological activity of the polyherbal formulation.

REFERENCE

1. https://en.wikipedia.org/wiki/Cosmetics
2. Pandey Shivanand, Meshya Nilam, Herbs Play an Important Role in the Field of Cosmetics D.Viral International Journal of PharmTech Research 2(1), 632-639, 2010.
3. Joshi Bhuwanchandra, Mr.Nardev Singh, Formulation and evaluation of herbal cream, Pharmatutor-art-163.
4. Namita and Nimisha, Development and evaluation of herbal cosmeceutical for skin care, International Journal of Pharma and Bio sciences, Amity university, Luck now, 4(2), 86-92,2013.
5. Pandey Shiva and, Meshya Nilam, Herbs play an important role in the field of cosmetics International journal of Pharmtech Research, Rajkot, Gujarat, 2, 2010.
6. Sahu Alakh N., Formulation & Evaluation of Curcuminoid Based Herbal Face Cream, Indo-Global Journal of Pharmaceutical Sciences, Banaras Hindu University, Varanasi, 2011, Vol 1, and ISSN: 1, 77-84.
7. Kole L. Prashant, jadhav R. Hemant, Cosmetic potential of herbal extracts, Natural Product Radiance, Rajasthan , 2005, Vol.(4), 315-321.
8. http://en.wikipedia.org/wiki/Stearic_acid.
9. www.truthinaging.com/ingredients/triethanolamine.
10. http://en.wikipedia.org/wiki/Cetyl_alcohol.
11. http://cosmeticsinfo.org/ingredient/propylene-glycol.