

Formulation and Evaluation of Herbal lotion

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Submitted: 15-05-2023

Accepted: 30-05-2023

ABSTRACT

The herbal cosmetics are those when natural herbs and their products used for their aromatic value in cosmetic preparation among consumers for herbal products triggered the demand for natural products and natural extracts in cosmetics preparations. Lotions are liquid preparations meant for external application without friction. They are applied directly to skin with the help of some absorbent material, such as, cotton wool or gauze soaked in it. Formulation of aloe vera lotion, formulation of menthol lotion and aloe vera lotion with arrow root powder is prepared using different composition. These formulations were evaluated with different evaluation parameters like Homogeneity, Appearance, After feel, Acid Value, pH measurement, Irritancy test, Viscosity, Accelerated stability testing, Subjective Properties, Spreadability, Type of emulsion test, Sensitivity Test, Washability Test, statistical analysis, In vitro permeation studies, Test for thermal stability, Determination of total fatty matter, Determination of water content, Patch test. The objective of this review is to compile the information of different herbal formulations of lotion and its evaluation. Herbal lotion formulations studied by many researchers and this information can be used by many researchers for novel herbal cosmetic formulations with new herbs. The herbal cosmetics are those when natural herbs and their products used for their aromatic value in cosmetic Preparation among consumers for herbal products triggered the demand for natural products and natural Extracts in cosmetics preparations. Lotions are liquid preparations that is for external application without friction. They are applied directly on the skin with the help of some absorbent material, such as, cotton wool Or gauze soaked in it. Formulation of aloe Vera lotion , formulation of menthol lotion and with arrow rootPowder is prepared using different composition. The focus of the present research was to formulate. The herbal Lotion for the occasion of moistening and nourishing the skin.

Keywords–Herbal Cosmetic, Herbal Lotion, Aloe Vera, Coconut oil,Rose water

I. INTRODUCTION

The word ‘Cosmetic’ derived from a Greek word – ‘kosmesticos’ that means to adorn. From that time any Materials used to beautification or promoting appearance is known as cosmetic. The word “cosmetics” Actually stems from its use in Ancient Rome. They were typically produced by female slaves known as “cosmetic” which is where the word “cosmetics” stemmed from. Cosmetics are used to enhance appearance. Makeup has been around for many centuries. The first known people who used cosmetics to enhance their Beauty were the Egyptians. Makeup those days was just simple eye coloring or some material for the body. Now-a-days makeup plays an important role for both men and women. The importance of cosmetics has Increased as many people want to stay young and attractive. Cosmetics are readily available today in the form Of creams, lipstick, perfumes, eyeshadows, nail polishes, hair sprays etc. Other cosmetics like face powder Give glow to the skin after applying the base cream. Then we have lipsticks, which are applied by many women of all ages. They are made from wax and cocoa butter in the desired amount. Cosmetics like creams, gels, and colognes are used on a daily basis by both women and men. Creams act as a Cleanser for the face in many circumstances. More recently anti- ageing creams have been manufactured which Can retain younger looking skin for many years. The best cleansing agents are cleansing cream, soap and Water. Cosmetic creams serve as a skin food for hard, dry and chapped skin. It mainly lubricates, softens and Removes unwanted dirt from the skin. Some popular fat creams that are used include Vaseline and Lanolin. Dry creams are used in the manufacture of soap and gelatin which is used as a base for the skin. Herbal Cosmetics, here referred as Products, are formulated, using various permissible cosmetic ingredients to form the base in which one or more herbal ingredients are used to provide defined cosmetic advantages only, shall be called as "Herbal Cosmetics". The herbal cosmetics are those when natural herbs and their products used for their aromatic value in cosmetic preparation among consumers for herbal products

triggered the demand for natural products and natural extracts in cosmetics preparations. Lotions are liquid preparations meant for external application without friction. They are applied directly to skin with the help of some absorbent material, such as, cotton wool or gauze soaked in it. Lotions may be used for local action as cooling, soothing or protective purposes. Herbal Lotions, here referred as Products, are formulated, using various permissible cosmetic ingredients to form the base in which one or more herbal ingredients are used to provide defined cosmetic advantages only, shall be called as “Herbal Cosmetics”. The herbal lotions are those when natural herbs and their products used for their aromatic value in cosmetic preparation among consumers for herbal products triggered the demand for natural products and natural extracts in cosmetics preparations. Lotions are liquid preparations that are for external application without friction. They are applied directly to skin with the help of some absorbent material, such as, cotton wool or gauze soaked in it. Lotions may be used for local action as cooling, soothing or protective purposes. A

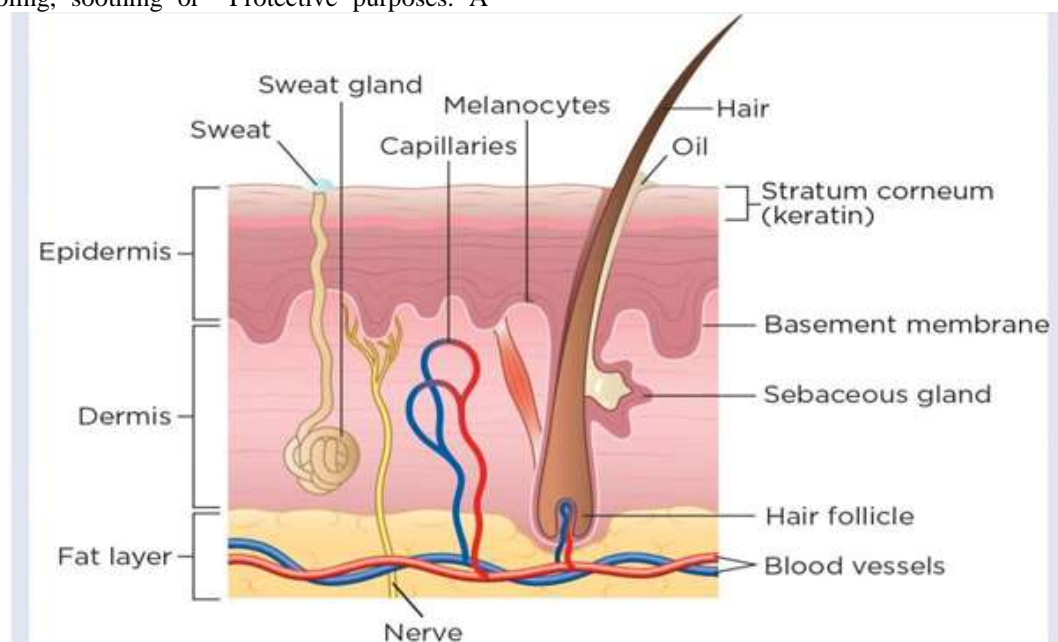
herbal lotion is a liquid preparation, applied externally on the skin.

II. Human skin

The skin is the largest organ of the body, with a total area of about 20 square feet. The skin protects us from germs and the elements, helps regulate body temperature, and permits the sensations of touch, heat, and cold.

Skin has three layers:

- The epidermis, the outermost layer of skin, provides a waterproof barrier and creates our skin tone.
- The dermis, beneath the epidermis, contains tough connective tissue, hair follicles, and sweat glands.
- The deeper subcutaneous tissue (hypodermis) is made of fat and connective tissue. The skin colour is created by special cells called melanocytes, which produce the pigment melanin. Melanocytes are located in the epidermis.



Structure of Human skin

Ingredients used in Herbal lotion

1. Bees wax
2. Coconut oil
3. Aloe vera gel
4. Borax
5. Rose water

Use of ingredients in Herbal lotion

1. **Bees wax**
 - In cosmetics, wax hydrates, conditions, soothes and relaxes the skin.
 - Exfoliates, repairs damage and heals the skin
 - A restorative reduced look

- It counteracts the signs of aging, reduces itching and irritation and creates a long-lasting protective moisture barrier.
- Combating environmental pollutants Beeswax is also an ideal natural exfoliator.
- Removes dead skin cells.
- Keep skin soft and moisturized.
- Treats eczema, psoriasis and eczema.
- Beeswax is a great choice for many skin types



Bees wax

2. Coconut oil

- Coconut oil has a primarily anti-inflammatory and hydrating properties in the skin.
- Has a anti oxidant property .
- Coconut oil is excellent as a face moisturizer and softener.
- Coconut oil acts as a great scrub .



Coconut oil

3. Aloe vera gel

- Is used as a moisturizer, to reduce pimples and acne and also used for treatment of burn wounds.

- Is used as an antifungal and anti-inflammatory and it is also used to reduce scar, pigmentation, redness and itching of the skin.
- In addition to moisturizing the skin, aloe vera gel can ease or soothe conditions like frostbite.
- Aloe vera gel can help your skin in hot and frigid weather.
- If your skin is damaged from a mild case of frostbite, aloe vera gel may help your tissues regrow more quickly and boost healing.



Aloe vera gel

4. Borax

- Borax is used prophylactically or prophylactically in the cosmetics industry. This slows the growth of bacteria in the humidifier creams, shampoos, gels, lotions and body washes, scrubs and bath salts.
- Cosmetics manufacturer Using borax as a buffer or emulsifier
- Prevent separation of product components
- Borax as raw material
- It kills skin bacteria and removes dead skin cells. And excess fat.
- Penetration Which makes it relatively safe for skin and limited use number.
- Borax is used in the cosmetics industry.
- Prevent or slow the growth of bacteria in humidifiers
- Products such as creams, shampoos, gels, lotions and body washes Bombs, scrubs and bath salts.
- My producer Borax cosmetics are used as a temporary remedy or emulsifiers to protect product ingredients It separates.



Bees wax

5. Rose water

- Rose water can clam your skin
- It has anti aging property
- Rose water makes great facial mist
- It can be used to create fragrance
- Rose water is a powerful ingredient in a facial treatment
- May hydrates the skin
- May help balance skin pH level
- Has a Anti-inflammatory effect



Rose water

Ideal properties of Herbal lotion

1. They should give cooling effect on application
2. They should be free from particles.
3. They should produce emollient effect.
4. They should remove the oily secretion upon application.
5. They should spread uniformly on the skin surface.
6. They should not cause any skin toxicity.
7. They should be compatible with skin pH.

Lotion Benefits

- 1.Re-hydrate dried skin..
2. Replenish extra dry or rough spots on the skin.
3. Smooth calluses.

4. Feel and smell good.
5. Help yourself relax.
6. Soften the roughest parts of your body.
7. Make your skin glow.

Advantages of Herbal lotion

- 1.They do not provoke allergic reactions and do not have any negative side effects.
2. They are easily incorporated with skin and hair.
3. These are very effective than other cosmetics with small quantity
4. Extract form of the plants decreases the bulk properties of the cosmetics and gives appropriate pharmacological effects.
5. Easy to available and found in large of variety of plants.
6. They have more stability, purity, efficacy, with their herbal constituents.
7. Easy to manufacture
8. The storage and handling of herbal cosmetics is easier and for prolong period.
9. Cheap in cost

Materials and Methods

Collection Of Herbs (Aloe vera): In this we mainly use only one herb known as Aloe vera. Moisturizing agent delivers smoothing property to the skin. Aloe vera gel contains two Hormones: Auxin and gibberellins. These two hormones provide wound healing and anti-Inflammatory properties that reduce skin inflammation. Aloe is used to effectively heal Chronic skin problems, such us psoriasis, acne and eczema. The herb that is used for research study was collected from botanical garden at Bareilly.

Extraction of Aloe vera:

- First of all, we have to collect Aloe vera leaves from botanical garden and washed with distilled water.
- Then we have to cut the outer part of leaf longitudinally with the help of knife.
- After that we removed colourless parenchymatous tissue and put it into beaker of 400 ml.
- Then we have to stir gel of Aloe vera with help of stirrer mixer.
- Then filtered it with help of muslin cloth to remove various types of impurities.
- At last cover beaker either by filter paper or with help of silver foil to prevent from microbial growth or any effect of environmental factor.

Role of ingredients

Sr.No	Ingredients	Use
1.	Bees wax	Stiffening agent in cosmetics
2.	Coconut oil	Moisturizer with antiseptic effect
3.	Alovera gel	Cooling property and is anti-inflammatory
4.	Borax	Antiseptic, anti-inflammatory
5.	Rose water	Vehicle

Formula

Sr.No	Ingredients	Formulation A	Formulation B	Formulation C
1.	Bees wax	2 gm	3 gm	4 gm
2.	Coconut oil	3 gm	4 gm	5 gm
3.	Alovera gel	0.59 gm	0.60 gm	0.61 gm
4.	Borax	0.1 gm	0.2 gm	0.3 gm
5.	Rose water	3 gm	4 gm	4 gm

- Dissolve borax in rose water at 70°C on a water bath
- Melt the wax with coconut oil in another beaker on water bath
- keep the temperature at about 70°C Pour borax solution into molten wax at the same temperature with constant stirring
- Stir the mass constantly when the temperature drops to about 45°C
- Pour the formulation in wide mouth container and label it.

XII . Evaluation of Herbal lotion

Organoleptic character

Homogeneity

PH determination

Determination of spreadability

Irritancy test

Washability

1. Organoleptic character

Colour – White

Odour -Pleasant

Texture –Smooth

State – Semi-solid

2. Homogeneity

The formulation were tested for homogeneity by visual appearance and by touch.

3. PH determination

0. 5 g cream was taken and dispersed in 50 ml distilled water and then PH was measured by using digital PH meter.

4. Determination of Spreadability

Sample was applied between two glass slides and was compressed to uniform thickness by placing 100gm weight for 5 minutes. 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. It was Calculated using the formula:

Spreadability-m*I/t

m-Weight tide to upper slide ,l - Length moved on the glass slide , t-time taken.

5. Irritancy test

Mark the area (2 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 any for an interval up to 24 h and reported.

6. Washability

A portion of lotion was applied over the skin of hand and allowed to flow under the force of flowing tap water for 10 minutes. The time when the lotion completely removed was noted.

II. RESULT AND DISCUSSION

1. pH determination

Sr.No	Formulation	pH
1.	A	6.5
2.	B	6.7
3.	C	7.2

2. Determination of spreadability

Sr.No	Formulation	Time (sec)	Spreadability (gm*cm/sec)
1.	A	11	22.9
2.	B	14	15
3.	C	8	32.7

3. Irritancy test

Sr.No	Formulation	Irritancy effect	Erythema	Edema
1.	A	Nil	Nil	Nil
2.	B	Nil	Nil	Nil
3.	C	Nil	Nil	Nil

Direction of Use

- For external use only Add a dollop (around a 10p coin size) to your hand (more if your skin is particularly dry or on rougher areas such as elbows and knees)
- Rub your palms together to warm up the lotion.
- Use your hands to massage the lotion into your body in small circular motions.

DIRECTION OF USE



STEP 01
Dispense Joy lotion into your palm



STEP 02
Apply gently all over your body



STEP 03
Slowly massage the lotion onto your skin



STEP 04
For best results, use the product as a daily routine

III. RESULT

All the three formulations A, B, and C Showed good appearance, PH, Determination of Spreadability. Also, the Formulations A, B, and C showed no redness, Erythema and irritation during irritancy study and They were easily washable .

IV. CONCLUSION

The present work focus on the potential of herbal extracts from cosmetic purposes. The uses of cosmetic have been increased in many folds in personal care system. The Use of bioactive ingredient in cosmetic influence biological functions of skins and Provide nutrients necessary for the healthy skin. There are numerous herbs available naturally having different uses in cosmetic preparations for skincare as antioxidants. The present study revealed that herbal cosmetic are very safe and does not produce any toxic and adverse reactions compare to marketed cosmetics products. Herbal Lotion we will avoid skin problems. By using Aloe Vera gel, Coconut oil and Rose water the cream showed a multipurpose effect and all these herbal ingredients showed significant different activities. Based on results and discussion, the formulations F1, F2 and F3 were stable at room temperature and can be safely used on the skin.

REFERENCE

- [1]. 1.Saudagar R. B. 1 and Sisodiya M. H., Review on Herbal Cosmetics, World Journal of Pharmaceutical Research, Volume 7, Issue 7, 573-591.
- [2]. 2. R. M. Mehta, Pharmaceutics-II, Fourth Edition, (119-120) Vallabh Prakashan 2015.
- [3]. Harshita Verma , Dr. Dharmesh Sisodiya; Formulation and Evaluation of Herbal Lotion of Aloe Vera (AloeBarbadensis) 2020 Scholars Academic Journal of Biosciences | Published by SAS Publishers, India
- [4]. Dr. Santram Lodhi; Dr. Mohanlal Kori, Practical Book of Herbal Drug Technology, Edition 2020 S. Vikas & Company- Medical Publishers P. No. 34-35
- [5]. Nikita M. Rathi, Shital V. Sirsat, Surekha S. Tayade, Abhijit S. Khot; Akshay C. Deshmukh Gemmulation and Standardization of Herbal Lotion 4 April 2022, Volume 7
- [6]. Namita and Nimisha Development and Evaluation of Herbal Cosmeceutical for Skin Care Int J Pharm BioSci 2013 Apr , (P) 86 – 92
- [7]. Medically Reviewed by Stephanie S. Gardner, MD on August 01, 2021
- [8]. ALOE VERA: A SHORT REVIEW
- [9]. Amar Surjushe, Resham Vasani, and D G Saple
- [10]. A review on herbal cosmetics Lovepreet Kaur, Ajeet Pal Singh, Amar Pal Singh, Taranjit Kaur St. Soldier Institute of Pharmacy, Lidhran Campus, Behind NIT (R.E.C), Jalandhar-Amritsar by pass NH-1 Jalandhar 144011, Punjab , India. Volume 9, issue 3 ,2021
- [11]. Banerjee, D., Kumar, M., & Mukopadaya, S. (2022). Formulation and evaluation of herbal body lotion: A review. International Journal of Health Sciences, 6(S2), 13342-13349.
- [12]. Pounikar Y, Jain P, Khurana N, Omray K, Patil S, Gajbhiye A. Formulation And Characterization Of Aloe Vera Cosmetic Herbal Hydrogel. 2012; 4:85-86.
- [13]. Ahlawat K S, Khatkar B S. Processing, Food Applications and Safety of Aloe Vera Products: A Review. 2011; 48(5):525-533.
- [14]. Bhuvana, Hema, Patil R T. Review On Aloe Vera.2014;2(3):677-691.
- [15]. Rajeswari R, Umadevi M, Rahale S, Pushpa R, Selvavenkadesh, Kumar K S, Bhowmik D. Aloe Vera: The Miracle Plant Its Medicinal And Traditional Uses In India.2012; 1:118-124.