

Preparation and Evaluation of Multipurpose Anti-Acne Herbal Cream with Aloe Extracts

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ABSTRACT

In the present study an attempt has been made to extract the Ethanolic extraction by maceration on the leaves of Aloe & Different flowers of Hibiscus, Rose, Ocimum, Neem flowers. Currently Multipurpose herbal Anti acne creams studies find their use and promising therapeutic effects in treating various diseases. The present aim of the abstract is based upon the maceration of various herbal leafs & flower extracts and followed by individual Herbal cream incorporation and standardization of the herbal macerated Anti acne creams and evaluation by performing by different qualitative and quantification techniques like PH, determination of microbial growth, irritancy test etc.

Keywords: Maceration, Antioxidant, herbal Anti acne Creams, Ethanolic extraction.

I. INTRODUCTION TO HERBAL COLD CREAMS & INGREDIENTS

The Herbal preparations are safe the preparations widely used now a days. By using the different herbal drugs and leaf extracts which are available in our local garden we have prepared 9 varieties of herbal cold creams which is having smoothening, smoothening, cleansing, moisturising, antibacterial and antifungal properties.

Creams are homogenous semisolid or viscous preparations that possess a relatively fluid consistency and are intended for the external application to the skin or certain mucous membranes for the protective, therapeutic and prophylactic purposes especially where an occlusive effect is not necessary. They are semisolids usually consisting of solutions or dispersions of one or more medicaments in suitable bases. These are the formulated hydrophilic or hydrophobic bases to provide essentially miscible to the skin.

The cream base used for the preparation of creams should not produce any irritation or sensitization of the skin, nor should it retard the

wound healing, it should be smooth, inert, odourless or almost odourless, physically and chemically stable and compactable with the skin and the incorporated medicaments.

Creams may contain suitable antimicrobial preservatives unless the ingredients or the bases themselves have sufficient bactericidal or fungicidal activity. They may also contain the other auxiliary substances such as antioxidants, stabilizers, thickeners and emulsifiers.

Natural herbal beauty products can make you look and feel great. Natural herbal skincare products can make our skin eco friendly, containing the botanical ingredients which are rich in vitamins, minerals; antioxidants etc are free from artificial fragrances. The benefits of herbal beauty care products are

Herbal beauty care products are non toxic, less side effects, eco friendly, gently absorb over the time.

INTRODUCTION TO HERBAL MATERIALS USED IN THE FORMULATION:



Aloe vera

Scientific Name: Aloe vera

Order: Aspergales

Genus: Aloe

Species: Aloe vera

Family: Asphodelaceae

Therapeutic uses: Skin burns & wounds, Antacne and Antiseptic Helps to treat skin Problems, Promotes hair growth.



Neem:

Scientific name: Azadirachta indica
Order: Sapindales
Genus: Azadirachta
Species: Azadirachta Indica
Family: Meliaceae

Therapeutic uses : Leprosy, Eye disorders, bloody nose, skin ulcers, Anti aging effects, Promoting Wound healing, Anti acne Fighting skin infections.



Rose petals:

Scientific name: Rosa
Species: Rosa kordesis, Rosa Canina
Kingdom: Plantae
Order: Rosales
Family: Rosaceae

Therapeutic uses:

Anti inflammatory, Anti acne, Flavouring agent, Astringent.



Hibiscus leaves:

Scientific name: Hibiscus rosa-sinesis
Genus: Hibiscus
Species: H.rosa sinesis
Kingdom: Plantae
Order: Malvales
Family: Malvaceae

Therapeutic uses:

Hair conditioner
Hair cleanser
Anti ageing
Antiwrinkle and in treating wounds and cholesterol levels.

Ocimum Sanctum :



Scientific name: Ocimum Sanctum
Genus: Ocimum
Species: Ocimum Tenuiflorum
Kingdom: Plantae
Order: Limiales
Family: Lamiaceae

Therapeutic uses:

Hair conditioner
Hair cleanser
Anti ageing

Anti-Acne

Materials & Methods:

The fresh leaves & Flower petals of various families are collected from the Medicinal Garden of the Vathsalya College of Pharmacy, Yadadri Bhuvanagiri Dist were used in the current study.

CHEMICALS USED:

- Stearic acid:- Finar chemicals limited, Ahmedabad.
- Almond Oil
- Cetyl alcohol:- Qualikems Fine Chemicals Private Limited, Nandesari, Vadodava.
- Methyl Paraben:- Qualikems Fine Chemicals Private Limited, Nandesari, Vadodava.
- Propyl Paraben:- Merck Specialities Private Limited, Mumbai.
- Propylene Glycol:- Finar chemicals limited, Ahmedabad.
- Ethanolic Leaf Extract
- Triethanolamine:- Merck Specialities Private Limited, Mumbai.
- Distilled water:- Quantity Sufficient.
- Agar Media:- Finar chemicals limited, Ahmedabad.

EQUIPMENT USED:

- Beakers
- Funnel
- Petri dishes
- Measuring cylinder
- Glass rod
- Conical flask
- Weighing balance
- Autoclave
- Mixer grinder
- Water bath
- Heating mantle
- Hot air oven
- Dessicator

PROCEDURE FOR PREPARATION OF HERBAL MULTIPURPOSE ANTIACNE CREAMS WITH ALOE EXTRACTS:

Preparation of Aloe Vera Extract:

Collect the Aloe fresh leaves and dry it for 2 days in sunlight.

Crush & press the leaves with the help of muslin cloth filter the Aloe juice.

Macerate the Collected Aloe extract with 70% Ethanol in iodine flask for 7 days.

Filter the extract once again & decolorize it with charcoal to get clear liquid.

Evaporate this extract to get semisolid mass.

PREPARATION OF CREAM

The moisturizer conditioner is a mixture of Propylene glycol:Glycerine :Sorbitol(2:1:1).

Dissolve the Aqueous soluble ingredients in water and mix oil ingredients at 75°C in separate beakers.

Slowly add the Aqueous phase to the oil phase with constant stirring and homogenize the mixture for 30min

Once the extracts got aggregated all the above extracts are filtered and the filtrates was separated the separated filtrates are named separately and note the colour of the crude drug. All the above extracts keep separately aside and used for further processes in the preparation of herbal creams.

Preparation of Multipurpose Herbal Anti Acne Creams with Aloe Extract

Oil in water emulsion based cream semi solid formulation was formulated.

The emulsifier stearic acid and other oil soluble components cetyl alcohol almond oil were dissolved in oil phase and heated at 75°C.

The preservatives and other water soluble components Methyl Paraben, propyl Paraben, Triethanolamine, propylene glycol, Ethanol extract of Aloe Vera Extract, Azadirachta flower Extract, Rose petal extract, Hibiscus rosa sinesis Flower extract, Ocimum sanctum flower Extracts was dissolved in Aqueous phase Part b and heated at 75°C.

After heating the aqueous phase was added to the oil phase in portions continuous stirring until cooling of emulsifier takes place.

Ingredients of Herbal Anti Acne Cream

Ethanolic extract of Azadirachta indica, Aloe vera juice extract, Rose petals, Hibiscus Rosa sinesis Flower extract stearic acid, cetyl alcohol, Almond oil, Mineral oil Methyl Paraben, propyl Paraben, propylene glycol, Triethanolamine, Moisturizer Conditioner Aloe ,Agar media, water quantity sufficient.



COMBINATIONS OF ANTI ACNE CREAMS WITH ALOE EXTRACTS:

Preparation of herbal Creams (Azadirachta indica)

Oil in water emulsion based cream semi solid formulation was formulated.

The emulsifier stearic acid and other oil soluble components cetyl alcohol almond oil were dissolved in oil phase and heated at 75°C.

The preservatives and other water soluble components Methyl Paraben, propyl Paraben, Triethanolamine, propylene glycol, ethanol extract of Azadirachta indica flowers & Aloe extract was dissolved in Aqueous phase Part b and heated at 75°C.

After heating the aqueous phase was added to the oil phase in portions continuous stirring until cooling of emulsifier takes place.

Ingredients of Herbal cream in combinations of Aloe & Azadirachta

Ethanol extract of Azadirachta indica & Aloe extract stearic acid, cetyl alcohol, Almond oil, Methyl Paraben, propyl Paraben, propylene glycol, Triethanolamine, Agar media, water quantity sufficient.

Preparation of herbal creams (Hibiscus Rosa-Sinesis)

Oil in water emulsion based cream semi solid formulation was formulated.

The emulsifier stearic acid and other oil soluble components cetyl alcohol almond oil were dissolved in oil phase and heated at 75°C.

The preservatives and other water soluble components Methyl Paraben, propyl Paraben, Triethanolamine, propylene glycol, ethanol extract of Hibiscus Rosa-Sinesis & Aloe extract was dissolved in Aqueous phase Part b and heated at 75°C.

After heating the aqueous phase was added to the oil phase in portions continuous stirring until cooling of emulsifier takes place.

Ingredients of Herbal cream in combination with Hibiscus & Aloe Extracts

Ethanol extract of Hibiscus Rosa-Sinesis & Aloe extract stearic acid, cetyl alcohol, Almond oil, Methyl Paraben, propyl Paraben, propylene glycol, Triethanolamine, Agar media, water quantity sufficient.

Preparation of Herbal creams (Rose petals)

Oil in water emulsion based cream semi solid formulation was formulated.

The emulsifier stearic acid and other oil soluble components cetyl alcohol almond oil were dissolved in oil phase and heated at 75°C.

The preservatives and other water soluble components Methyl Paraben, Propyl paraben, Triethanolamine, propylene glycol, ethanol extract of Rosa kordesii & Aloe extract was dissolved in Aqueous phase Part b and heated at 75°C.

After heating the aqueous phase was added to the oil phase in portions continuous stirring until cooling of emulsifier takes place.

Ingredients of Herbal cream in combination of Aloe & Rose petal extract:

Ethanol extract of Rosa kordesii & Aloe extract stearic acid, cetyl alcohol, Almond oil, Methyl Paraben, Propyl paraben, propylene glycol, Triethanolamine, Agar media, water quantity sufficient.

Ingredients of Herbal cream in combination of Aloe & ocimum sanctum Flower extract:

Ethanol extract of Ocimum sanctum flower & Aloe extract stearic acid, cetyl alcohol, Almond oil, Methyl Paraben, Propyl paraben, propylene glycol, Triethanolamine, Agar media, water quantity sufficient.

Preparation of herbal creams (ocimum sanctum flowers Petals)

Oil in water emulsion based cream semi solid formulation was formulated.

The emulsifier stearic acid and other oil soluble components cetyl alcohol almond oil were dissolved in oil phase and heated at 75°C.

The preservatives and other water soluble components Methyl Paraben, propyl paraben, Triethanolamine, propylene glycol, ethanol extract of Ocimum sanctum & Aloe extract was dissolved in Aqueous phase Part b and heated at 75°C.

After heating the aqueous phase was added to the oil phase in portions continuous stirring until cooling of emulsifier takes place.

Ingredients of Herbal cream in combination of Aloe & Ocimum sanctum flower extract:

Ethanollic extract of Rosa kordesii & Aloe extract stearic acid, cetyl alcohol, Almond oil, Methyl Paraben, Propyl paraben, propylene glycol, Triethanolamine, Agar media, water quantity sufficient.

Evaluation of Cream:

The evaluation of creams was done by the following methods

- Physical properties.
- Homogeneity.
- Appearance.
- After feel.
- Type of smear.
- Ease of Removal.

- Test for thermal stability.
- Irritancy test.
- Determination of pH.

Test for microbial growth in formulated creams:-

Homogeneity: The formulations were tested for the homogeneity by touch and visual appearance.

Appearance: The Appearance of the cream was judged by its colour, pearlscence roughness and graded.

After Feel: Slipperiness, Emolliency and the amount of residue after the application fixed amount of cream was checked.

Type of smear: After the application of the cream that the type of the film or the smear formed on the skin were checked.

Test for thermal stability: Thermal stability of the formulation was determined by the humidity chamber and controlled at 60-70% RH and 37± 1°C

II. RESULTS & DISCUSSION:

Name	Physical Properties	Homogeneity	Appearance	Irritancy	Type of smear	Ease of removal	Test for thermal stability	Determination of pH
Aloe leaf extract	Green & Characteristic	Ease to touch	Good smooth	Negative	Yes	Yes	Yes	3.5
Ocimum sanctum Flowers	White Acceptable	Ease to touch	Good smooth	Negative	Yes	Yes	Yes	3.8
Hibiscus Rosa-Sinesis	Red & Characteristic	Ease to touch	Good smooth	Negative	Yes	Yes	Yes	3.4
Rose Petals	Pink Aromatic	Ease to touch	Good smooth	Negative	Yes	Yes	Yes	3.5
Neem	White & Characteristic	Ease to touch	Good smooth	Negative	Yes	Yes	Yes	4.5

Test for Microbial Growth in formulated creams:

The formulated creams were inoculated on the plates of agar media by streak plate method and a control was prepared by omitting the cream. The

plates were placed in to the incubator and was incubated at 37°C for 24 hours. After the incubation period, plates were taken out and check the microbial growth by comparing it with the control.



S. No	Name of herbal drug	Antimicrobial test	Result
1	Azadirachta indica	37°C for 24 hours	Absence of microbes
4	Aloe Extract	37°C for 24 hours	Absence of microbes
5	Hibiscus Rosa-Sinesis	37°C for 24 hours	Absence of microbes
7	Ocimum sanctum	37°C for 24 hours	Absence of microbes
8	Rosa kordesii	37°C for 24 hours	Absence of microbes

DISCUSSION

Herbal Multipurpose creams plays an important role in the protection of skin against the harmful microorganisms and deadly foreign organic matters and acts as a immolient,soothing and brightening of skin. As compared to conventional ones or the synthetic ones herbal cold creams act against the skin protection and not causing any side effects to the skin

Based on literature review By using the different Flowers, leaves of Aloe, Flowers of hibiscus Rose petal, Azadirachta,ocimum sanctum Different activities are already reported in different parts of plant. all the above leaves & flowers are collected from the garden washed properly with distilled water and air dried in the laboratory.

Maceration of drug the leaves & flowers are extracted with Ethanolic extract for 1-7 days proper agitation and mixing was done for the above extracts after preparation of extracts filtration was done and the filtrate dried in the desiccators. From the above different flower & leaf extracts each and every herbal extract was taken separately and incorporated in the herbal cream preparation and standardised to get the herbal creams each and every herbal multipurpose cream was further evaluated.

- I. The evaluation of physical properties by using colour and odour and homogeneity by using its visual appearance and touch, appearance can be judged by its roughness and graded, by application of cream which type of film it is

can be judged by washing under tap water ease of removal or not can be judged. By the application of cream on the skin irritancy Erythema and edema can be checked. PH of the cream can be judged individually by taking creams in different buffer solutions basic or acid medium can be checked with ph meters. At last the microbial growth of the creams can be tested with agar media by streak plate method the introduction of herbal cold cream into the agar plate by streaking under sterilized conditions and the results were observed after the incubation of 24hours.

The evaluation of herbal cream of different flower extracts by using various evaluation tests it is compared to that of synthetic sources the herbal multipurpose anti acne creams are safe and hence it has been proved by antimicrobial and irritancy tests. Hence it can be used as emollient & skin protective

III. CONCLUSION

Bas Creams area the homogenous semisolid liquid preparations and that posses fluid consistency which are intended for the external application of skin mucous membrane for protective therapeutic and prophylactic purposes

Based on literature review of By using the different Flowers, leaves of Aloe, Flowers of hibiscus Rose petal, Azadirachta,ocimum sanctum Different activities are already reported in different parts of plant.

The maceration of herbal extracts standards and qualitative parameters as per pharmacopoeia and WHO guidelines was followed

The preparations of various herbal cold creams and their incorporation and standardization was studied the stearic acid as emulsifier cetyl alcohol and almond oil as oil soluble components the preservatives methyl parabean ,propyl parabean triethanolamine propylene glycol Ethanolic herbal extract as aqueous phase both heated cooled, agitated to form a semisolid creamy base now the same procedure repeated for remaining extracts of herbal leafy extracts. After forming the cream evaluation tests were performed

The studies on the pharmacognostical phytochemical and anti Acne activity on Ethanol flower extract of Aloe Ocimum sanctum has proved that the ethanol extract of possessing anti acne activity this effect may be due to presence of saponins flavonoids,phenolic and triterpenoidal compounds in the ethanol extract of flowers.

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