



Formulation and evaluation of polyherbal vanishing cream

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Abstract: -

Based on the antifungal, antimicrobial, anti-inflammatory, skin-soothing, and anti-aging properties of aloe vera, kachora plant, linseed, long pepper, nagarmotha plant, nutmeg, turmeric, and wheat grain, a polyherbal oil-in-water disappearing emulsion cream was created in the current study. By employing the maceration process with ethanol as the solvent, all herbs were extracted. The created disappearing cream was then tested against a number of criteria, and the results fell within acceptable ranges. During stability tests carried out at various temperatures for a month in accordance with the International Council for Harmonization (ICH) requirements, the manufactured vanishing cream was discovered to be stable and solid. Results have demonstrated the good stability of formulations. Conclusion: The created polyherbal vanishing cream was pleasant to use, easily washable without causing any negative side effects.

Keyword: - Crude drugs, Emulsion, Ethanolic extract, Polyherbal, Stability, Vanishing cream

Introduction: -

A cream is a semisolid formulation that typically is applied to the skin and contains more than 20% water and 50% lipid carriers. Another method of incorporating a medicinal molecule is to dissolve or disperse it in an appropriate cream base (Osborne, 2008).

To safeguard the skin's consistency, a variety of lotions are available on the market. Numerous irritating and unpleasant substances, including as skin secretions, sweat, salts, and sebum, as well as deposits of dirt bound by greasy substances, adhere to the skin and must be removed using a particular procedure. In order to protect the skin from the aforementioned toxins, a vanishing cream is essential (Akhtar et al., 2011).

Most of the currently available vanishing creams made from synthetic ingredients promise fairness, but they have few other benefits.

side effects as tingling or negative allergic reactions. Perhaps the creams made from natural and herbal ingredients don't have any of the aforementioned negative effects. Due to improvements in analysis and quality as well as improved clinical research in the treatment and prevention of disease, herbalism has become a centre of research and focus in

pharmaceutical formulation and drug development (Faisal, 2019). The World Health Organization (WHO) estimates that more than 80% of people worldwide depend on herbal medications, and 25% of current medications in the USA are plant-based (Steven, 2015). The Ayurvedic medical system was developed in India using writings from 1500 BC. Famous herbalists like Charka and Sushruta discussed a number of plants and minerals used in the Ayurvedic medical system throughout the first century BC (Dwivedi and Dwivedi, 2007).

Vanishing creams are so named because they leave no visible traces on the skin's surface after application and rubbing. Following the dissipation of water, which provides the skin a non-glossy appearance, it produces a thin, invisible, and imperceptible film on the skin (Saraf and Saraf, 2019). These creams often contain stearic acid, an alkali (to make soap), a polyol (to soften the skin), and water in an o/w type emulsion. Burroughs Wellcome introduced the first vanishing cream in 1892 with Hazline Snow (Ugandar and Deivi, 2013). A non-toxic polyol molecule called glycerine is frequently utilised to give pharmaceutical formulations smoothness and lubrication. A saturated fatty acid called stearic acid is used in the production of detergents, soaps, and cosmetics



Fig. 1: Crude Drugs & Prepared Polyherbal Vanishing Cream

A potassium ion that is an in a range of personal care and cosmetic items (Datta and Paramesh, 2010).

The goal of the current study was to create and assess a polyherbal vanishing cream ethanolic extract made from aloe vera, the kachora plant, linseed, long pepper, nagarmotha, nutmeg, turmeric, and wheat grain.

. Need of Present Investigation

- 1) Herbs are important for their disease prevention and health promotion properties.
- 2) Herbal cosmetics are natural and free from all the harmful synthetic chemicals which generally may turns out to be lethal to skin.
- 3) Prevent and heal dry skin treat skin conditions such as eczema and acne also blackheads.
- 4) The cream also acts as fairness expert in day-to-day life removing aging sings.

3. Drug and Excipient

Turmeric



Biological Source: -Turmeric is a flowering plant of the ginger family, Zingiberaceae.

Chemical Constituent: - urmeric include diarylheptanoids, a class including numerous curcuminoids, such as curcumin, demethoxycurcumin, and bisdemethoxycurcumin.

2) Honey



Biological source -Honey is the saccharine liquid prepared from the nectar of the flowers by the hive-bee *Apis mellifica* and bees of other species of *Apis*. Family Apidae

Chemical constituents:

- 1) Honey consists chiefly a mixture of dextrose and laevulose (70-80%) and water (14-20%). Contains sucrose (1.2-4.5).
- 2) Dextrin (0.06-1.25%), volatile oil, pollen grains enzymes
- 3) Vitamins
- 4) Amino acids
- 5) Proteins
- 6) Colouring matters, etc.

3) Black Mustard



Biological Source

These are dried ripe seeds of *Brassica nigra* Linn., *Koch* or *Brassica juncea* Linn, Czern & Coss, belonging to family *Cruciferae*.

Chemical Constituents- The black mustard seed contains a thioglycoside ie, a B-glucopyranoside termed as sinigrin. It is also known as myronate potassium or allyl glucosinolate

Uses

- a. Paste Or Sauce Made from Mustard Seeds Used as A Condiment
- b. Mustard plant, one of several plants, having seeds that are used for the condiment
- c. Mustard seed, seeds of the mustard plant used in cooking

Almond



Biological Source: - Comprises of the dried ripe kernels of *Prunus amygdalus* Batsch. Var *Amara* (DC) Focke; *Prunus communis* Arcang. *amygdalus* Bail; and *Amygdalus communis* Linn belonging to family *Rosaceae*.

Chemical Constituents

Contains 32% monounsaturated oleic acid (an omega-9 fatty acid), 13% linoleic acid (a polyunsaturated omega-6 essential fatty acid), and

10% saturated fatty acid (mainly as palmitic acid, USDA link in table). Linolenic acid, a polyunsaturated omega-3 fat, is not present (table). Almond oil is a rich source of vitamin E.

Uses

- 1) Bitter almonds are employed as sedative due to HCN content.
- 2) The fixed oil of bitter almond finds its use as demulscent in skin-lotion.
- 3) It is also employed in the preparation of amygdalin and bitter almond water.

5) Gram flour



Biological source- is a pulse flour made from a variety of ground chickpea known as Bengal gram.

Chemical constituent- Gram flour contains a high proportion of carbohydrates [higher fibre relative to other flours, no gluten, [2] and a higher proportion of protein than other flours.

S. NO.	Herbal Extract	Medicinal Importance
1	Turmeric	Prevent and heal dry skin, treat skin condition such as eczema and acne..
2	Honey	Light humectant and nutrient used as thickening agent to give body to facial mask.
3	Almond seed	Almond oil is brilliant moisturizer. It works to prevent acne blackheads. It also provides vit. E for healthy skin
4	Mustard seed powder	Exfoliate dead skin.
5	Gram Flour	Helps treat acne the Zink in gram flour can fight infections that cause acne

4. Materials

Stearic acid (17%), potassium hydroxide (0.5%), sodium carbonate (0.5%), Alcoholic, Ethanol. (4.5%), Glycerine (6%), Water (71%), Turmeric, Honey, Almond seed, Mustard seed powder, Gram flour.

1) Preparation of Polyherbal Vanishing Cream-

All above mentioned powdered Crude drugs of 5gms were taken into the conical flask and then 100ml. of ethanol was added to it, then the conical flask was capped with aluminium foil. Then this mixture was placed for maceration for 5 days.

2) Preparation Of Oil Phase:

Stearic acid (17%), potassium hydroxide (0.5%), sodium carbonate (0.5%) was taken into one porcelain dish and this mixture was melted at 700c.

3) Preparation Of Aqueous Phase

Alcoholic extract of crude drugs mentioned in step-1 (4.5%), Glycerine (6%). Water (71%) were taken into another porcelain dish and heated this mixture at 700c

4) Addition Of Aqueous Phase

To Oil Phase Cent The aqueous phase was added to the oil Phase with continuous stirring at 700c. Now, once the transfer was completed it was allowed to come at room temperature, all the while being stirred. Perfume (0.5%) was added at last just before the finished product was transferred to suitable container. Then cream was evaluated for various physical parameters.

4.1 Evaluation Test

1) pH

The pH meter was calibrated and measured the pH by placing in the beaker containing 20mg of the cream.

2) Spreadability Test

500mg of the cream was sandwiched between 2 slides. A weight of 100gm was placed on upper slide. The weight was removed and extra formulation was scrapped off. The lower slide was fixed on board of apparatus and upper slide was fixed with non-flexible string on which 20g load was applied. Time taken by upper slide to slip off was noted down.

4.2 Determination of type of emulsion

1) Dilution test-

In this test the emulsion is diluted either with oil or water. If the emulsion is o/w type and it is diluted with water, it will remain stable as water is the dispersion medium" but if it is diluted with oil, the emulsion will break as oil and water are not miscible with each other. Oil in water emulsion can easily be diluted with an aqueous solvent, whereas water in oil emulsion can be diluted with an oily liquid.

2) Dye solubility test

In this test an emulsion is mixed with a water-soluble dye (amaranth) and observed under the microscope. If the continuous phase appears red, it means that the emulsion is o/w type as the water is in the external phase and the dye will dissolve in it to give colour. If the scattered globules appear red and continuous phase colourless, then it is w/o type. Similarly, if an oil soluble dye (Scarlet red C or Sudan III) is added to an emulsion and the continuous phase appears red, then it is w/o emulsion.

3) Homogeneity

The test was done by physical touch with hands

4) Patch Test

About 1-3gm of material to be tested was placed on a piece of fabric or funnel and applied to the sensitive part of the skin e.g. skin behind ears. The cosmetic to be tested was applied to an area of 1sq.m. of the skin. Control patches (of similar cosmetic of known brand) were also applied. The site of patch is inspected after 24 hrs. As there was no reaction the test was repeated three times. As no reaction was observed on third application, the person may be taken as not hypersensitive.

5) Appearance

The appearance of the cream was found by observing its colour, opacity, etc.

6) After Feel

After applying the herbal cream on skin, the properties like emollient nature, slipperiness and the amount of cream left after applying to the skin was checked

7) Smear Type

The test was conducted after the application of cream on the skin the smear formed was oily or aqueous in nature.

3) Homogeneity-

It was found that the cream was homogeneous and smooth the and consistent in nature.

4) Type of smear

It was found that the cream produced non-greasy film on the on-skin surface.

5) Emolliency

After observation, it was found that cream not left residue on skin surface after application.

6) Viscosity

The viscosity of cream was found to be 27025cps.

Type of emulsion

The cream was found to be of the O/W type emulsion by eft dilution and dye solubility test.

Result obtained for the evaluation tests are under the specified limits. colour is yellowish green odour is pleasant, homogeneous, emollient. Also result obtained for the physical parameters like pH, viscosity etc. are according to the standard value In biological evaluation, it is tested on human skin and it did not produce any inflammation, allergy or eurythmic reactions.

6. Conclusion

The vanishing cream of crude drugs with the best properties and having nutritional value was to be prepared by simple methods and less equipment are required. The prepared herbal cream also has antioxidant and antibacterial activity due to this it retards aging signs and pimple formation on the face. Further studies are required for this vanishing herbal cream. It was found that this type of formulation of the vanishing herbal cream was not prepared earlier. Oil in water emulsion-based cream was formulated using natural ingredients and was evaluated. By combining all these ingredients, it can be concluded that this cream can be used as a multipurpose cream and the ingredients mixed can produce synergistic effect of the other. Further studies can be carried out on stability and skin irritancy test of the cream.

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8) Removal

The removal of the cream applied on skin was done by washing under tap water with minimal force to remove the cream.

9) Irritancy test

The cream was applied on left hand dorsal side surface of Isq.cm and observed in equal intervals up to 24hrs for irritancy, redness and edema.

Physical parameters	Observations
Appearance	Yellowish green colour
pH	6.1
Homogeneity [A] By visual [B] By Touch	Homogeneous Smooth and Consistent
Type of smear	Non-greasy
Emolliency	No residue left
viscosity	27025cps
Dilution test-	O/W type emulsion
Dye solubility test	O/W type emulsion
Irritancy test	Not irritant
removal	Easily remove by water

10) Determination of viscosity

The viscosity determinations were carried out using a Brookfield Viscometer (DV II+ Pro model) using spindle number S- 64 at a 20 rpm at a temperature of 25°C. The determinations were carried out in triplicate and the average of three readings was recorded.

11) Accelerated Stability Studies

Accelerated stability studies were performed on all the formulations by maintaining at room temperature for 20 days with constant time interval. During the stability studies the parameters like homogeneity, viscosity, physical changes, pH and type of smear were studied.

Results and Discussions

The herbal vanishing cream was prepared by using o/w emulsion method using mixture of alcoholic extract of a crude drug including turmeric powder, almond, Gram flour, Honey, mustard powder. The extract was used and formulated and pass the evaluation test and all result were mentioned in following table.

1) Appearance

The cream prepared was found to be of a yellowish green colour and had pleasant odour.

2) pH

The pH of cream was found to be 6.1, which is acidic value.

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