Formulation And Evaluation Of Herbal Face Cream

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Abstract— Aloe vera, amla and cucumber peel are medicinal plant they are used as traditionally from ancient year in various herbal medicines such Ayurveda, siddha, and Homeopathic. Cosmetics and some medicinal products are made up from the mucilaginous tissue in the centre of aloe vera leaf and called Aloe vera gel. Aloe vera gel contains no Antraquinone. Which are Responsible for the strong laxative affects of aloe. However, total leaf extract may contain Antraquinone. Aloe vera contains 75 potentially active constituents like Vitamines, Enzymes, Minerals, Sugars, Saponis, Amino acids. Amla contain Amino acid like glutamic acid, proline, And Aspartic acids etc. Protein, Minerals. Cucumber peels are rich in fiber and contain minerals like magnesium, potassium, and silica. The silica is an essential component to keep your muscles, bones, and tendons healthy. It also hydrates our skin, improves complexion and vision.

Keyword: Aloe vera, Amla, Cucumber peels, facecream.

INTRODUCTION: Skin is the outermost tissue of the body and the largest organ in terms of both weight and surface area. It has an area of approximately 16,000 cm² for an adult and represents about 8% of the body weight. As seen in Figure 1, skin has a very complex structure that consists of many components. Cells, fibers and other components make up several different layers that give skin a multi-layered structure. Veins, capillaries and nerves form vast networks inside this structure. In addition, hairs stick out from the inside of skin. Numerous fine hair furrows are scattered over the surface of skin. Skin performs a wide variety of functions resulting from chemical and physical reactions inside these components. The major function of skin is to act as a barrier to the exterior environment. It protects the body from friction and impact wounds with its flexibility and toughness. Harmful chemicals, bacteria, viruses and ultraviolet light are also prevented from entering the body by the skin. It also prevents water loss and regulates body temperature by blood flow and evaporation of sweat. These functionalities are critical to our well-being. The secretion of sweat and skin lipid cause the elimination of a number of harmful substances resulting from metabolic activities in the intestines and the liver. Furthermore, skin has a large amount of nerve fibers and nerve endings that enable it to act as a sensory organ.

FUNCTIONS OF SKIN

Protection from war and tear:
The skin varies in thickness according to the amount of friction and pressure to which it is subjected on the eyelids it is about 1mm thick, while on the palms of the hands and soles of the feet it can be up to 1cm. The toughness of skin is due to the amount of the insoluble protein keratin within it. There is little or none where the skin is not subject to friction (for example, inside the lips) and more where the skin is subjected to constant external pressure. Subcutaneous fat beneath the skin acts as a shock absorber and helps to protect the body from trauma.

Protection against infection and chemicals
Although large numbers of micro-organisms live on the skin, these cannot break the barrier created by intact healthy skin. Trauma to the skin creates an opportunity for invasion by micro-organisms and results in an inflammatory response characterised by redness, swelling, localised heat, pain and pyrexia. Blood flow increases and transports white blood cells and macrophages to the site of injury to fight infection and repair the tissue. The skin also provides protection
against weak chemicals and most gases.

Protection against ultraviolet:
The skin protects the body from harmful UV rays. The pigment melanin is produced in special cells called melanocytes, which are found at the base of the epidermis. Melanin production is influenced by sunlight. When skin is over exposed to the sun's rays, it becomes red with erythema (flushing of the skin in response to dilatation of blood vessels in the dermis) due to inflammation. The skin then turns brown as melanin is produced. Melanin absorbs UV light and prevents it damaging cellular DNA. Hair, made of keratin, also helps to protect people from UV light as well as from extremes of temperature and trauma.

HISTORY OF HERBS

Aloe vera:
Occurrence And Distribution:
It belongs to Asphodelaceae (Liliaceae) family, and is a shrubby or arborescent, perennial, xerophytic, succulent, pea-green color plant. It grows mainly in the dry regions of Africa, Asia, Europe and America. In India, it is found in Rajasthan, Andhra Pradesh, Gujarat, Maharashtra and Tamil Nadu.

Taxonomical Classification
Family: Asphodelaceae
Species: A. vera
Kingdom: Plantae Order: Asparagales Indian Names: Sanskrit: Kumarirashav

CHEMICAL CONSTITUENTS
Major constituents: Glycosides-Anthracene derivatives: Hydroxyanthraquinone derivatives(25-40) aloin (=barbaloin, a mixture of aloin A & B, the diastereoisomeric 10-C glucosides of aloeh-edomin anthrone) and 7-hydroxyaloin isomers.
Indian aoles contain aloinosides as major constituents with only traces of aloin.
Minor constituents:
- Aloeemodin,
- Chrysophano,l

Amla:
Occurence and distribution:
Amla (Emblica officinalis) (EO) has a hallowed position in Ayurveda- an Indian indigenous system of medicine. According to belief in Indian mythology, Amla is the first tree to be created in the universe; which belongs to the family of Euphorbiaceae andis also known as Phyllanthus emblica or Indian gooseberry. Amla is native to India and also grows in tropical and subtropical regions of Pakistan, Uzbekistan, Sri Lanka, South East Asia, China and Malaysia.

Chemical Constituents of Amla:-
The fruit of Amla is rich in vitamin C (ascorbic acid) and contains several bioactive phytochemicals, of which majority are of polyphenols (ellagic acid, chebulinic acid, gallic acid, chebulagic acid, apeigenin, quercetin, corilagin, leutolin, etc.)

Cosmetological Importance of Amla:
Well, you must be wondering how gooseberry can be used to your skin. You can consume it with honey or you can also apply it on your skin directly and reap its benefits. If you are finding it hard to consume this sour fruit, then try making juice out of it and consume it. This will do good for your skin. Here are some health benefits of gooseberry for your skin.

Cucumber:
Occurrence And Distribution:
Europe, Asia, the Middle East, some parts of the U.S.A.

Taxanomical classification: Order: Cucurbitales
Family: Cucurbitaceae
Genus: Cucumis
Species: C. sativus

Chemical Constituent Of Cucumber:
Cucumber fruit mostly contains water (95%) and small amounts of protein (0.6%), lipids (0.1%) and carbohydrates (2.2%). Cucumber plant is widely cultivated in Greece and the annual production represents the 26.7% of the total vegetable production.

Uses:
Cucumber helps keep the face fresh and glowing, owing to the silica and high water content. Using cucumber slices on the eyes reduces puffiness and makes dark circles vanish from under the eyes. Do not discard cucumber peel it has many health benefits. The benefits include its beneficial effects in eye disorders, vitamin A & C deficiency, constipation and bones and muscles disorder. Cucumber peels are rich in fiber and contain minerals like magnesium, potassium, and silica.
The silica is an essential component to keep your muscles, bones, and tendons healthy. Hydrates our skin, improves complexion and vision.

**SPINACH**

*Chemical constituent:*

Spinach leaves contain chlorophyll a, chlorophyll b and beta-carotene as major pigments as well as smaller amounts of other pigments such as xanthophylls. In green leafy vegetables such as spinach, only the green chlorophylls are seen because they mask the bright red, orange and yellow colours of the carotenoids. Blanching spinach reduces its percentage of chlorophyll. Chlorophyll is lipophilic.

**Kingdom:** Plantae

**Family:** Lamiaceae

**Uses:**

Rosemary oil is used for purposes of fragrant bodily perfumes or to emit an aroma into a room. It is also burnt as incense, and used in shampoos and cleaning products.

**Preparation of Extract:**

Air dried and coarsely powdered of Aloe vera, Amla and cucumber peel. Were placed in Soxhlet separately, using petroleum ether and then successively with Ethanol. The extract was then concentrated to dryness under reduced pressure and controlled Temperature, and they were preserved in a Refrigerator.

**Cream Formulation:**

Beeswax, propylene glycol was taken in first beaker. Then heat on a water bath for uniform mixing. After few minutes Oil phase was formed.

Aloe vera extract and Amla extract, cucumber peel extract, Distilled water, white soft paraffin and glycerine, zinc oxide, Sodium benzoate was taken in second beaker.

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<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Ingredient</th>
<th>Quantity</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Aloe vera</td>
<td>9.37 gm</td>
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<tr>
<td>2</td>
<td>Amla</td>
<td>6.25 gm</td>
</tr>
<tr>
<td>3</td>
<td>Cucumber peels</td>
<td>5 gm</td>
</tr>
<tr>
<td>4</td>
<td>Bees wax</td>
<td>20 gm</td>
</tr>
<tr>
<td>5</td>
<td>White soft paraffin</td>
<td>56.25 ml</td>
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<tr>
<td>6</td>
<td>Methyl paraben</td>
<td>1.87 ml</td>
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<tr>
<td>7</td>
<td>Distilled Water</td>
<td>q.s</td>
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<tr>
<td>8</td>
<td>Menthol</td>
<td>1.19 ml</td>
</tr>
<tr>
<td>9</td>
<td>Glycerine</td>
<td>6.25 ml</td>
</tr>
<tr>
<td>10</td>
<td>Propylene glycol</td>
<td>6.25 ml</td>
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<tr>
<td>11</td>
<td>Zinc oxide</td>
<td>4.37 gm</td>
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<tr>
<td>12</td>
<td>Sodium benzoate</td>
<td>0.625 gm</td>
</tr>
<tr>
<td>13</td>
<td>Spinach (Colouring Agent)</td>
<td>q.s</td>
</tr>
<tr>
<td>14</td>
<td>Rosemary (Flavouring Agent)</td>
<td>q.s</td>
</tr>
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</table>
PREPARED FORMULATION

Evaluation Parameter:

Evaluation of herbal cream was following. A) Physical Evaluation:
Formulated herbal creams was further Evaluated by using the following physical parameter colour, odour, consistency, and state of the formulation.

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Parameter</th>
<th>Result</th>
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<tbody>
<tr>
<td>1</td>
<td>Colour</td>
<td>White green</td>
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<tr>
<td>2</td>
<td>Odour</td>
<td>Characteristics</td>
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<tr>
<td>3</td>
<td>State</td>
<td>Semisolids</td>
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<td>4</td>
<td>Consistency</td>
<td>Smooth</td>
</tr>
<tr>
<td>5</td>
<td>PH</td>
<td>6.7</td>
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<tr>
<td>6</td>
<td>Spredability</td>
<td>7.4 gm.cm/cm</td>
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<tr>
<td>7</td>
<td>Washability</td>
<td>Easy washable</td>
</tr>
<tr>
<td>8</td>
<td>Non irritancy test</td>
<td>Non irritant</td>
</tr>
<tr>
<td>9</td>
<td>Viscosity</td>
<td>39015</td>
</tr>
<tr>
<td>10</td>
<td>PH as separation</td>
<td>No pHase seperation</td>
</tr>
<tr>
<td>11</td>
<td>After feel</td>
<td>Emollient</td>
</tr>
</tbody>
</table>

Colour:
The colour of the cream was observed by visual examination. The result was shows in table 3.

Odour:
The odour of cream was found to be characteristics.

State:
The state was cream was examined visually. The cream was solid in state resultwas shows in table 3.

Consistency:
The formulation was examined by rubbing cream on hand manually. The cream having smooth consistency.

pH:
The pH of prepared herbal cream was measured by using digital pH meter. The solution of cream was prepared by using 100 ml of Distilled water and set aside 2h. PH was determined in three times for solution and the average value was calculated. Results were shown in table 3.

RESULT AND DISCUSSION

The present study was the formulation and evaluation of polyherbal cream. The evaluation parameters were coming under results, like the physical evaluation of polyherbal cream, PH of the cream, Spredability, Washability, non-irritancy test, viscosity and PHase separation of the polyherbal pain relieving cream was shown in table 3. The present work was the formulation and evaluation of polyherbal cream. This cream formulation was o/w type of emulsion; hence this formulation was easily washed with plane water after application. The prepared formulation was good Spredability. Viscosity and PH of the cream was good. Cream does not show any type of pH as separation during storage. The cream was non-grassy in nature and easily removable after application. The formulation was Nonirritant and not harm to the skin.

CONCLUSION

In market, there are various type of face cream are available, claiming that they project skin from uv radiations, sunlight etc at considerable rate and minimum time. Formulation of cream pH, Spredability, Washability, non-irritancy test, viscosity and PHase separation of cream and gives good result.
REFERENCE

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