FORMULATION AND EVALUATION OF POLYHERBAL COSMETIC CREAM

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ABSTRACT:
Objective: The main objective of the work is to formulate and evaluate a polyherbal cosmetic cream using natural ingredients.

Materials & Methods: Aloe vera, turmeric, green tea leaves, Carica papaya were dried, powdered and extracted using ethanol. The extracts were then concentrated to dryness and stored for further use.

Results and Discussion: The pH of the cream was 6.8, it was easily spreadable, washable, no gritty particles were found and the dye test confirmed that it was o/w type of cream.

Conclusion: 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.

Key Words: Cream; Aloe vera; Turmeric; Green tea leaves; Carica papaya; Cosmetics.

INTRODUCTION

All of us on this earth wanted to have a young and beautiful and we take several measures to tone up our skin and diminish the pimples, acne, wrinkles and signs of aging [1]. Now a day’s most of us prefer natural ingredients than synthetic ones especially when it is skin

A natural skin cosmetic should moisturize, hydrate and nourish the skin[2]. The present work is an attempt made to develop a natural face cream which can produce multipurpose effect. In any skin care routine a natural face cream is necessary and a vital thing. They not only nourish the inner layer of the skin but also protect them from damage [3]. The very important ingredient to be present in a cosmetic purpose skin cream is an antioxidant which is very much needed by the skin. This prevents any kind of damage to the cell membranes, harm caused by the UV rays of the sun, environmental pollution, smoking and other elements [4].

Beside Vitamin E, light emollients are another natural ingredient that soothes and softens the skin without blocking the pores and make it free from dirt and grime. They also serve as a seal to skin cells and thus you can have a supple skin all throughout [5].
MATERIALS AND METHODS

The plants for the study were selected, procured from market shade dried, powdered coarsely and extracted with hydro alcoholic solution and used for the formulation. The plant materials used for the study are

*Aloe vera*: It is obtained from *Aloe barbadensis* of the family Xanthorrhoeaceae and is used as Anti aging, moisturizer, detoxifier in cosmetics.

*Cucuma longa*: Commonly called as Turmeric belongs to the family Zingeberaceae

Use: prevents and heal dry skin, treat skin conditions such as eczema and acne, and retard the aging process.

*Green Tea*: Obtained from leaves of *Camellia sinensis* of the family Theaceae. This gives a moisturizing effect and improves skin microrelief and also acts as an antioxidant.

*Papaya*: This is obtained from ripen Fruits of *Carica papaya* of the family Caricaceae. It is used in the Treatment of eczema or hyperpigmentation, and also as skin exfoliator.

**Formulation of Cream**

Oil in water emulsion-based cream was formulated. Stearic acid and cetyl alcohol were dissolved in the oil phase and heated to 75°C. After heating, the aqueous phase was added into the oil phase with continuous stirring until homogenous cream was formed. [Table 1]

**Table 1: Formulation of Cream**

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Ingredients</th>
<th>Quantity (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Extract of Aloe vera</td>
<td>0.75</td>
</tr>
<tr>
<td>2.</td>
<td>Extract of Cucuma longa</td>
<td>0.75</td>
</tr>
<tr>
<td>3.</td>
<td>Extract of Camellia sinensis</td>
<td>0.75</td>
</tr>
<tr>
<td>4.</td>
<td>Extract of Carica papaya</td>
<td>0.75</td>
</tr>
<tr>
<td>5.</td>
<td>Stearic acid</td>
<td>6</td>
</tr>
<tr>
<td>6.</td>
<td>Cetyl alcohol</td>
<td>3</td>
</tr>
<tr>
<td>7.</td>
<td>Methyl paraben</td>
<td>0.02</td>
</tr>
<tr>
<td>8.</td>
<td>Propyl paraben</td>
<td>0.02</td>
</tr>
<tr>
<td>9.</td>
<td>Triethanolamine</td>
<td>2</td>
</tr>
<tr>
<td>10.</td>
<td>Propylene glycol</td>
<td>4</td>
</tr>
<tr>
<td>11.</td>
<td>Water</td>
<td>Q.S</td>
</tr>
</tbody>
</table>

**Evaluation of the Cream**

The results are shown in Table 2.

Organoleptic properties: The formulated cream was evaluated for its organoleptic properties like colour, odor manually. pH: The pH of the cream was tested using pH meter.

Spreadability and Grittiness: The cream was placed in between two glass slides and was compressed to a uniform thickness by placing 100 g weight for 5 min. 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 plate was taken as measure of spreadability.

\[ S = \frac{m \times l}{t} \]

Where,

\( m \) = weight tied to upper slide  
\( l \) = length moved on the glass slide  
\( t \) = time taken  

Spreadability test also was performed by applying a little amount of cream was on the skin and checked for its uniform spreadability and presence of any gritty particles.

Washability: A little amount of cream was applied on hand and washed under running tap water.

Consistency: This parameter was checked manually.

Dye Test with Scarlet red: A little quantity of the cream was added with scarlet red to check the type of emulsion.

**RESULTS AND DISCUSSION**

All the parameters which were evaluated found to give good results and the results are tabulated below.

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Parameters</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Color and Odor</td>
<td>Characteristic</td>
</tr>
<tr>
<td>2.</td>
<td>pH</td>
<td>6.8</td>
</tr>
<tr>
<td>3.</td>
<td>Spreadability</td>
<td>Uniform with a value of 36 g/cm/sec</td>
</tr>
<tr>
<td>4.</td>
<td>Washability</td>
<td>Washable</td>
</tr>
<tr>
<td>5.</td>
<td>Consistency</td>
<td>Good</td>
</tr>
<tr>
<td>6.</td>
<td>Grittiness</td>
<td>No gritty particles found</td>
</tr>
<tr>
<td>7.</td>
<td>Dye Test with Scarlet red</td>
<td>O/W type</td>
</tr>
</tbody>
</table>

**CONCLUSION**

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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**REFERENCES**