



FORMULATION AND EVALUATION OF ANTI-ACNE HERBAL CLEANSER BY USING BAEL LEAVES AND GUAVA LEAVES

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ABSTRACT

Herbal remedies are more acceptable in the view that they are safe with fewer side effects than the synthetic ones. Herbal formulation have more demanded in the market. The present work deals with the formulation and Evaluation of Anti-Acne herbal cleanser by using bael leaves and guava leaves extracts. The plants have been reported in the literature having good anti-microbial, anti-oxidant and anti-acne and anti-inflammatory activity. Various formulation batches i.e, F1 to F4 were prepared using different gelling agents like carbopol 940 and gelatin IN 1:1 AND 1:2 concentrations. Among all the formulation studied batch F3 was found optimum for all the parameter. Prepared formulations (F1 to F4) were evaluated for various parameters like colour, appearance, consistency, washability, pH, spreadability. Optimized formulation was compared with the marketed preparation. It is a very good attempt to establish the herbal cleanser containing bael leaves and guava leaves extracts.

KEYWORDS: Anti-Acne Herbal, formulation, Bael leaves, Guava leaves, Honey, Gelatine.

INTRODUCTION

Acne is self limiting disease of sebaceous glands, manifesting generally in adolescents. It is characterized by lesions like papules, nodules and cysts. The increase in size of sebaceous glands and concomitant of sebum secretion during adolescence are physiologic, but inflammatory changes acne represent a disease which may be extraordinary chronic. It occurs world wide in all

places affecting 80% of the people sometimes or the other in their life.

CAUSES OF ACNE

1. Overactive oil glands
2. Blockage of the skin pores
3. Activity of normal skin bacteria
4. Inflammation

MATERIALS AND METHODS

MATERIALS

| MATERIALS | COLLECTED FROM |
|------------------------|-------------------|
| Gelatin and carbopol | From lab |
| Distilled water | From lab |
| Bael leaves | From plant |
| Guava leaves | From plant |
| Honey | From local market |
| Methyl paraben | From lab |
| Propyl paraben | From lab |
| Triethanolamine | From lab |
| Sodium lauryl sulphate | From lab |
| Rose water | From local market |

METHODS**Preparation of herbal extracts**

- The herbs collected from plants are washed under running water and are dried in direct sunlight.
- Then converted into coarse powders and sieved through sieve no. 60 mesh. Then the extracts were prepared by decoction method and the prepared extracts were stored in well closed containers.

Decoction Process

- Decoction is a method of extraction by boiling water. It is the most common preparation method in various herbal-medicine systems.
- Decoction involves first drying the plant material; then mashing, slicing, or cutting the material to allow for maximum dissolution; and finally boiling in water to extract various chemical substances.

Authentication of herbs

The naturally collected and dried herbs were authenticated from Nalanda college of pharmacy, nalgonda; department of pharmacognasy. All the herbs were evaluated as per Ayurvedic pharmacopeia of India.

Preparation of gel base

- Gelatin was dissolved in boiling water in order to converts in to gel base.

Preparation of formulation

- Accurately weighed amount of both extracts of bael and guava were added to the gel base separately in the ratio of 1:1 and 1:2. Honey is added as humectant and rose water as perfuming agent.
- Then triethanolamine is added drop wise to the formulation for adjustment of required pH.^[6]
- Methyl paraben and propyl paraben are added as preservatives.
- Sodium lauryl sulphate is for the foaming purpose.

FORMULATION TABLE

| Sr.No | Ingredients | Formulation | | | |
|--|------------------------|-------------|---------|---------|---------|
| | | F1 | F2 | F3 | F4 |
| Step1-Gel base | | | | | |
| 1 | Carbopol 940 | 1 gm | 2 gm | - | - |
| 2 | Gelatin | - | - | 1 gm | 2 gm |
| 3 | Distilled water | 10 ml | 10 ml | 10 ml | 10 ml |
| Step 2- Formulation of Herbal cleanser | | | | | |
| 1 | Guava leaves | 1 ml | 2 ml | - | - |
| 2 | Bael leaves | - | - | 1 ml | 2 ml |
| 3 | Methyl paraben | 0.15 gm | 0.15 gm | 0.15 gm | 0.15 gm |
| 4 | Propyl paraben | 0.05gm | 0.05 gm | 0.05 gm | 0.05 gm |
| 5 | Honey & Rosewater | 1 ml | 1 ml | 1 ml | 1 ml |
| 6 | triethanolamine | 0.050 | 0.050 | 0.050 | 0.050 |
| 7 | Sodium lauryl sulphate | 0.05 gm | 0.05 gm | 0.05 gm | 0.50 gm |
| 8 | Gel base | Q.S | Q.S | Q.S | Q.S |

EVALUATION PARAMETERS

Physical Test: It includes color, odour and consistency. Visual inspection of the herbal cleanser characteristics revealed that it was brown in colour, had a distinct scent, and had a semisolid consistency. The color of the herbal cleanser formulation was examined visually. Smelling the formulation allowed us to evaluate its odor, and we manually selected consistency.

Odour: Due to presence of rose water formulation having rosy smell while the marketed formulation shown characteristic smell.

Consistency: It was determined manually.

Washability: Following skin application of the formulation the extent and ease of washing were measured. It was simple to wash the semisolid herbal cleanser.

Spreadability: The spread ability of the formulation was found manually by applying the cleanser on the skin with gentle rub.

Grittiness: The product was checked for the presence of any gritty particles by applying it on the skin.

Foamability: Small amount of cleanser was taken in a beaker containing water.

pH: The pH of formulation is 6.3. The pH of marketed formulation is 6.

RESULTS AND DISCUSSION

| Formulation code | Odour | Colour | Consistency | Greasiness |
|------------------|----------|-------------|-------------|------------|
| Marketed product | Pleasant | Dark brown | Semisolid | No |
| F1 | Pleasant | Light brown | Semisolid | No |
| F2 | Pleasant | Light brown | Semisolid | No |
| F3 | Pleasant | Light brown | Semisolid | No |
| F4 | Pleasant | Light brown | Semisolid | No |

DISCUSSION

The herbal cleanser was formulated and evaluated for colour, odour, consistency, pH, washability, grittiness, foam ability, and obtained results are given in below table.

| Sr.No | Parameters | Observation |
|-------|--------------|----------------|
| 1 | Colour | Light brown |
| 2 | Adour | Characteristic |
| 3 | Consistency | Semisolid |
| 4 | pH | 6.3 |
| 5 | Washability | Good |
| 6 | Grittiness | No |
| 7 | Foam ability | Good |

CONCLUSION

Herbal formulations are more acceptable in the belief that they are safer with fewer side effects than synthetic ones. The world market is also moving towards polyherbal anti-acne products. etc. the consumer use of herbal products has significantly increased over the past years according to a survey of global skincare market trends. In the present study, an attempt was made to formulate anti- acne herbal cleanser by using Bael leaves and Guava leaves extracts and to evaluate for physical parameters like colour, odour, pH, consistency, greasiness, viscosity, spreadability, washability. Carbopol and gelatin produces desired gel strength in formulations. Honey produces humectants activity. Thus the preparation will have good spreadability results. It indicates easy application on the skin. This study revealed that the formulation of batch F3 was comparatively better than other formulations.

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