

ANTIACNE SYNERGISTIC HERBAL FACE WASH: FORMULATION AND EVALUATION

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ABSTRACT

Background: Acne Vulgaris is an extremely common disorder of the skin which is also a chronic inflammatory disorder of pilosebaceous unit which involve increase sebum production by sebaceous glands and abnormal desquamation of hair follicles occur in response to increase androgen levels with the onset of puberty that affects virtually all individuals at least once during life.

Objective: Natural Remedies are more tolerable as well as safer with side effects than the synthetic ones. We have prepared formulation using herbals.

Material and methods: Herbal face wash was prepared from the extract of as neem leave (*Azadirachta indica*), the rhizome of turmeric (*Curcuma longa*), nutmeg seeds (*Myristica fragrance*), licorice root, honey, orange peel, lemon juice, xanthan gum, rosewater, sodium lauryl sulfate is generally used in the preparation of herbal face wash to avoid the maximum number of side effects.

Result: The prepared formulation is generally homogeneous in nature and easily washable and slightly alkaline pH in nature which is compatible with the normal physiology of the skin.

Conclusion: It was a very good attempt to establish the herbal anti-acne face wash. This article represents benefits of herbal medicine in comparison to the products available in the market which are harmful to skin and produce various side effects.

KEYWORDS: Acne vulgaris; herbals; evaluation; washability; irritancy test.

INTRODUCTION

Acne Vulgaris is one of the most common diseases of the skin which is starts in men and women between 20 to 30 years of age.^[1] Various kinds of factors are involved in the

formation of acne example follicular hyperproliferation, increased sebum production due to higher androgen levels and colonization of organisms.^[2] Herbal products generally help in sebum control antibiotics which inhibits *Propionibacterium* acne and *staphylococcus*. *Epidermidis* is the main causative agent of acne, anti-inflammatory with preventing the worsening of the condition due to inflammation or redness, etc.^[2] Face skin is the major part of the body, it performs many vital functions including protection against external physical, chemical, and biologic assailants, as well as prevention of excess water loss from the face and a role in thermoregulation.^[3]

It indicates the health of an individual face skin required also consist of various materials such as amino acids, protein, lipids, and carbohydrates, etc.^[2] and for keep skin clear glossy and healthy must require to balance all nutrient group, Apart from the balanced nutrition, hormonal changes, especially during the puberty in both sexes, causing many changes in the body.^[4] It deals with the formulation and characterization of cosmetic herbal face wash preparation. In ancient times women are very conscious about their beauty and they have not so much readymade products so that they started to dress because they wanted to increase their beauty. Even today, people especially in rural areas, and hilly regions select natural remedies like plant extracts for cosmetics purposes like neem, orange rose because it is easily available and also used to purify and beautify the skin (herbal cosmetics).

The main advantage of using herbal cosmetics is that it is natural no other chemical components are added so it is pure and also side effects chances are very rare on the human body. In this article, we share homemade face wash to whiten the skin naturally for men's and women's skin. These face washes have natural skin lightening and can be easily prepared at home.

Facial skin is dedicated and ordinary soaps can result in loosening moisture. The face wash is a mild cleaner that does the vital job of keeping skin clean, germ-free, smooth, fresh, and moisturizers the horny layer of the skin without any harshness to the skin. It looks younger and energetic, the purpose of face wash maybe to impart cleansing and anti-wrinkle effect anticancer property moisturizing effect and fairness of skin.

MATERIAL**Table: List of ingredients.**^[6]

Sr.No	Ingredients	Botanical name	Uses
1.	Neem leaves	<i>Azadirachta indica</i>	Antibacterial, antifungal, anti-inflammatory, antiseptic, and highly beneficial for oily and acne-prone skin.
2.	Turmeric rhizomes	<i>Curcuma longa</i>	Antibacterial, antifungal and it protects the skin from many infections and also adds glow to the face.
3.	Nutmeg seed	<i>Myristica fragrance</i>	Antibacterial, anti-inflammatory, antiseptic, bactericides.
4.	Liquorice root	<i>Glycyrrhiza glabra</i>	Delivers valuable soothing properties to the skin. Highly rejuvenating and nutritive qualities are attributed to it.
5.	Honey	<i>Apis mellifera</i>	Light humectants and nutrients used as a thickening agent to give body to facial mask, creams and lotion.
6.	Orange peel	<i>Citrus reticulata</i>	Antioxidant, anti-inflammatory, anti-microbial,
7.	Lemon juice	<i>Citrus lemon L</i>	To lighten skin and reduce blemish marks on the skin
8.	Rose water	Rosa	Used as solvent, perfume
9.	Propylparaben		Preservatives
10.	Methylparaben		Preservatives
11.	Sodium laury sulfate		Surfactant

Composition of developed formulation

S.N.	Ingredients	Qty for 50 ml
1.	Neem Extract	2.5ml
2.	Turmeric	1.25ml
3.	Nutmeg	1.25ml
4.	Liquorice	1.25ml
5.	Orange peel	0.5ml
6.	Lemon juice	0.5ml
7.	Honey	2.5ml
8.	Rose water	q.s
9.	Propyl paraben	0.03mg
10.	Methyl paraben	0.05mg
11.	Sodium laury sulfate	1.05g

PROCEDURE**➤ Collection**

Leaves of neem were collected, Fruits of Nutmeg, orange peel, licorice root, turmeric root, rosewater was collected from the local market.

1. Preparation of extracts

Leaves of neem, roots of licorice, rhizomes of turmeric, orange peel, were kept in a hot air oven for drying purpose at 45c and grinded into small pieces by using the grinder. Seeds of nutmeg and shahijeera (Cumin) were crushed to make powder. Desired quantities of herbal

drugs were weighed and each herb macerated with rose water in the conical flask. All dried herbs were macerated with rose water by moderate / gently shaking of the conical flask for 3 days. Separately After 3 days, contents were filtered out by using muslin cloths and filtrates were collected in vessels separately.^[9]

2. Filtration

Filtration of the extract was done by using a simple filter muslin cloth and funnel for two times.

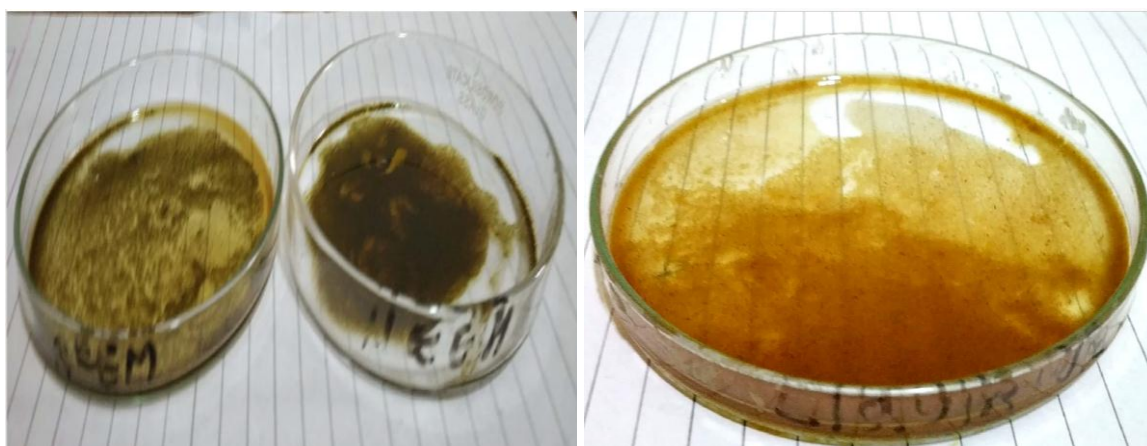
3. Evaporation

Evaporation was done by using a water bath. Filtrates were allowed to evaporate in a water bath at 60°C temperature until the desired concentration of the extract was obtained.

4. Development of Formulation.

Various formulation batches were prepared according to Table 2. The desired concentration of gelling agent i.e. Xanthium gum was weighed accurately and dispersed in hot rose water (not more than 60°C; 50 % weight of the batch size) with moderate stirring, avoiding air entrapment and allowed to soak overnight. The desired quantity of lemon juice was dissolved in the desired amount of honey by gentle stirring.

The desired quantity of concentrated herbal extracts was added to the remaining amount of rose water and mixed with the above honey mixture by gentle stirring. This was finally mixed with previously soaked gel formulation. Prepared formulations were filled in a suitable container and labeled accordingly.



Neem

Licorice ROOT

**Cumin Seeds****Turmeric****The side effect of synthetic facewash**

- ❖ These harmful chemicals increase the probability of developing skin allergies, irritation, and side-effects.
- ❖ If you use such chemicals continuously, your skin is at risk of premature aging.
- ❖ Toxic chemicals make your skin exhaustive and saggy over time.
- ❖ Such impure ingredients can cause acne and blemishes.

Advantages of Herbal Facewash**✓ Treats pimples and acne scars**

Ayurvedic massage therapy takes care of acne and acne scars. If you have blemishes that leave a dark patch on your skin, an ayurvedic massage with oils and packs that suit your skin type will heal this problem.

✓ Removes dryness

Since herbal packs are used for this treatment, those suffering from dry skin problems will be benefitted in more ways than one. The packs ensure that the dryness is taken care of and also your skin stays hydrated for a good amount of time.

✓ Makes your skin glow

The herbal and natural ingredients ensure that your skin is well-nourished and radiates. If you go in for facials that are done using lentils, rose or saffron packs, it will lighten your skin and keep it glowing for a long time.

✓ Face wash moisturizes the skin

Chemical-free face washes help clear out pollution, dust, and various other particulates while also keeping sensitive skin safe from any damage and deterioration. At the same time, it helps refresh and replenish your face, which in turn leads to a new, moisturized feeling.

Comparative evaluation of formulation

The prepared face wash was evaluated for various parameters as follows:

1. Physical evaluation

Physical parameters such as color, appearance & consistency were checked visually.

2. Washability

Formulations were applied on the skin then easily remove by washing with water were checked manually.^[7]

3. Colour

The color of the face wash was checked visually.

4. pH

The pH of 1% aqueous solution of the formulation was measured by using a calibrated digital pH meter at a constant temperature.^[5]

5. Irritancy test

The face wash was applied on the left-hand dorsal surface of 1 sq. cm and observed in time interval 1 to 2 hrs.^[8]

RESULT AND DISCUSSION

The results of the evaluation are displayed in Table. The formulation was orange in color, whereas, the marketed formulation was green in color. The formulation was found to have semisolid consistency. The formulations were found homogenous, easily washable. The formulated face wash has slightly alkaline pH which is compatible with normal physiology.

Evaluation of formulation

S.NO	Parameter	Formulated Facewash
1	Color	Green
2	Consistency	Semi-solid
3	Washability	Good
4	pH	6.5
5	Irritation test	Nonirritant

CONCLUSION

Natural remedies are more acceptable in the belief that they are safer with fewer side effects than the synthetic ones. Herbal formulations have a growing demand in the world market. It is a very good attempt to establish the herbal face wash because it is one of the most preferred cosmetic products has now created a strong impact on our life. Several herbal ingredients offer antioxidant, antiwrinkle, imparts glow, and fairness to the skin.

In this study we formulate and evaluate herbal face wash which is one of the most well-recognized acne treatments, herbal face washes not only moisturized, they also used as a cleanser. Preferably they used for oily and dry skin physiology. It provides numerous essential nutrients to the required for maintaining normal skin functioning. it also promotes the natural glow to the skin.

The herbal face wash was prepared from various herbs like Neem, Turmeric, Nutmeg, Liquorice, Honey, and the soothing agent as Xanthium used for formulation. It gives beneficial effects to the face. The various parameters like color, pH, consistency, washability, and irritability were checked and evaluated hence, from the present investigation it was found that the formulated herbal face wash was found to be more efficient as compared to the marketed face wash. Further study is to be needed to test the pharmacological activity of the formulation.

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