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Formulation and Evaluation of Herbal Facewash

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Abstract: *Natural remedies are more acceptable in the belief that they are safer with fewer side effects than the synthetic ones. Herbal formulations have growing demand in the world market. The present work deals with the development & evaluation of the herbal anti-acne face wash containing aqueous extract of neem leaves (Azadirachta indica), turmeric (Curcuma longa), liquorice root, shahi jeera, orange peel & hydro alcoholic extract of fruit of nutmeg (Myristica fragrance). Although various topical herbal formulations for acne are available in the market, we propose to make pure herbal formulation without using any synthetic ingredient. The plants have been reported in literature having good anti-microbial, anti-oxidant & anti-inflammatory activity.*

Bel patra extract :The demand for herbal cosmetics has surged in recent years due to their perceived safety and effectiveness. This study aims to formulate and evaluate a herbal face wash using Bel Patra (Aegle marmelos) extracts, renowned for their medicinal properties. Bel Patra is rich in antioxidants, anti-inflammatory, and antimicrobial compounds, making it an ideal ingredient for skincare products.

Herbal facewash Gel: Natural medicine are the more acceptable in the belief that they are safer with fewer side effect that the synthetic once. Herbal formulation have growing demand in the world market. The present work done deal with the development evaluation of the herbal face wash gel, which has a anti-acne activity. These formulation contains the aqueous extract of neem leaves (Azadirechta indica), turmeric (Curcuma longa L.), Nutemeg (Myristica fragrance), reetha (sapindus mukorossi) rose water, walnuts(Juglans), orange peel powder and for the flavoring purpose we used thw marketed perfume. We purpose to make pure herbal formulation without using any synthetic ingredients.

The present research has resemblance to a skin whitening cosmetic composition containing Evodia rutaecarpa fruit extract. The instant whitening face wash can be applied to skin, this face wash found to be very effective. According to In-Vivo study, the product has no skin irritation after application on the skin.

Keywords: Face Wash, Instant Whitening Face Wash, Evodia rutaecarpa, Melanin Pigmentation, Antioxidants etc

I. INTRODUCTION

Face wash refers to products that clean the face without drying it out. "Cleanser" is another name for face wash. Face wash has been determined to be suitable for all skin types. Face wash is particularly effective in removing dirt, oil, and moisture from dry skin. Face washes and cleansers are both used to remove grime, oil, and pollution from your face.

Definition :-A face wash is a skincare product designed to cleanse facial skin by removing dirt, oil, and impurities. It comes in various forms like gels, foams, or creams and often includes ingredients to address specific concerns.

Face wash is the products which are used to cleanse face without drying it out. Face wash is also commonly known as “cleanser”. Face wash product found to be equally good for all skin type. Face wash is very helpful in removing dirt, oil and provide moisture to the dry skin.

Natural product have their importance as they contain various kinds of active pharmaceutical ingredients such as alkaloids, flavonoids, glycosides, tannins, amino acids, fibers, resins, etc. These natural ingredients show vital biological properties such as antimicrobial, antifungal, antibacterial, and various other properties. These ingredients are used for

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different types of solid and liquid dosage forms. Different types of skin problems are also faced by humans. So, the body needs more immunity to heal it. Some of the medicines improve immunity along with other issues.
Facial scrub is a cosmetic or a beauty product or a treatment which cleanses and exfoliates the skin of the face or body. Facial scrubs are beneficial to remove dirt, skin cells and sebum or oil, blackheads and Whiteheads. It helps to maintain skin appearance.

Advantages
• Moisturizes dry skin and keeps it hydrated
• Refines large pores
• Improvises your skin texture
• Cleans your skin by absorbing excess oil
• Minimizes the appearance of fine lines and wrinkles.
Market in the form of soaps, creams, liquids, or gels play an important role in routine skin care. Skin cleansers reduce skin surface tension, making it easier to remove dirt, sebum, microorganisms, and exfoliated skin cells from the skin's surface.

Skin care preparation
Incredible progress has been made in the creation of skincare products. Individuals protect their bodies, make themselves seem better, and avoid body odor by using a range of skin care products, including foot powder, lipstick, mouthwash, and complexion creams. Items intended to be rubbed, poured, sprinkled, sprayed, or applied in any other way to the human body or any part of the body in order to cleanse, beautify, enhance attractiveness, or alter the appearance of skin are recognized as skin care preparations.4 The Ayurvedic practice of using various herbs, such as haldi and amla, in cosmetic preparations is described. A lot of eighteenth-century European women used lead carbonate to whiten their skin, not realizing the risks involved.
Definition :A face wash is a skincare product designed to cleanse facial skin by removing dirt, oil, and impurities. It comes in various forms like gels, foams, or creams and often includes ingredients to address specific skin concerns.

Benefits of Facial Wash
It keeps skin youthful and healthy by assisting in the removal of dead skin cells. Removes dirt, oil, and impurities that accumulate on the skin throughout the day. Helps to prevent breakouts by removing excess oil and unclogging pores. Many face washes are formulated with ingredients that help maintain the skin's natural moisture balance.
Some face washes contain exfoliating agents that help to remove dead skin cells, promoting a smoother complexion.
Regular use can enhance skin texture and tone by keeping it clean and refreshed. A clean face better absorbs other skincare products, such as moisturizers and serums.
Regular cleansing helps to prevent various skin issues like dullness, irritation, and inflammation. Washing your face can provide an immediate feeling of refreshment and revitalization.

Properties of face wash
Cleansing :Effectively removes dirt, oil, makeup, and impurities.
Hydrating :Maintains or enhances the skin's natural moisture balance.
Exfoliating :Contains ingredients that help remove dead skin cells (in some formulations).
pH Balanced : Formulated to match the skin's natural pH, ensuring it doesn't disrupt the skin barrier.
Antibacterial : Some formulations contain antibacterial agents to help combat acne-causing bacteria. Suitable for Various Skin Types Available in formulations tailored for different skin types (oily, dry, sensitive, combination).

Uses of face wash:
Removes dirt, oil, and impurities accumulated throughout the day.
Helps to unclog pores and reduce acne breakouts.

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Regulates excess oil production on the skin.
Assists in removing makeup residues from the face. Provides a refreshed and revitalized feeling to the skin.
Helps to remove dead skin cells, promoting a smoother complexion.

Additives used in face wash

Surfactants : Sodium lauryl sulfate (SLS), sodium laureth sulfate (SLES), and cocamidopropyl betaine for effective cleansing.
Antioxidants : Vitamin C, vitamin E, and green tea extract to protect against free radicals.
Antibacterial Agents: Benzoyl peroxide and tea tree oil to combat acne-causing bacteria.
Fragrances : Natural or synthetic scents to improve the sensory experience.
Preservatives : Parabens, phenoxyethanol, and sodium benzoate to extend shelf life and prevent microbial growth.
Gelling agents : Gelling agents will cause emulsions to thicken, making them less inflexible and more flexible. With the help of these gels, thick products can be produced that are easier to bottle or spray by shaking or agitating vigorously. For instance, Carbopol 940, Carbopol 934.
Humectants : Unlike desiccants, humectants are hygroscopic materials used to preserve moisture in items. Many hydrophilic groups, most commonly hydroxyl groups, can be found in it; however, amines, carboxyl groups, and occasionally esterified hydrophilic groups can also be found in it (the important characteristic is its ability to form hydrogen bonds with water molecules). Some examples of glycolic acids are propylene, butylene, and hexylene glycol.
Foaming Agent : One material that acts as a foaming agent is a surfactant, also known as a blowing agent. As an illustration, consider sodium lauryl sulphate, azodicarbonamide, and titanium hydride.

Advantages of Herbal Cosmetics over Synthetic cosmetics

Natural Ingredients : Herbal face washes use plant-based ingredients, which are generally considered gentler and less likely to cause irritation or allergic reactions
Fewer Chemicals : They typically contain fewer synthetic chemicals, reducing the risk of skin sensitivity and long term exposure to potentially harmful substances.
Eco-friendly : Often biodegradable and made with sustainable practices, herbal face washes are usually more environmentally friendly.
Non-toxic : Free from harsh chemicals like sulfates, parabens, and artificial fragrances, which can be harsh on the skin.
Suitable for Sensitive Skin : More suitable for people with sensitive skin or conditions like eczema and rosacea, as they are less likely to irritate.
Fits your Budget : Natural cosmetics are reasonably priced products. These products are sometimes more affordable than synthetic ones. They are offered at a discount and received a low price during the sale. Just search for great deals by conducting adequate research.
Not tested on animals: A number of cosmetics undergo initial animal testing to ensure they are safe for human use. Animal testing for natural cosmetics is not required, though. Without using any animals, experts assess these plant-based products in laboratories with state-of-the-art equipment.
No Side Effects : Using artificial beauty products may cause your skin to irritate and breakout. They may clog your pores, leaving your skin feeling greasy or dry. When using natural cosmetics, one need not worry about them. Natural ingredients guarantee no side effects, making them suitable for use anytime, anywhere.

Herbs In face wash

Characteristics

Appearance: Each bel patra is made up of three pointed leaflets, which are glossy, green, and have a slightly leathery texture.
Aroma: The leaves have a mild, pleasant aroma.
Tree: The Bel tree itself is a medium-sized, deciduous tree with thorny branches and a hard, woody trunk. It can grow up to 15-20 meters.

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PLANT AND EXTRACTION PROCESS

1)

bel Patra :

Synonym : Native Indian tree

Biological sources : Aegle marmelos

Family : Rutaceae13

Uses :

Bel patra can aid digestion, alleviate constipation, and treat diarrhea and dysentery.

The leaves help regulate blood sugar levels.

They are used to reduce inflammation and treat ulcers.

It is useful in treating respiratory conditions like asthma and bronchitis.

Bel Patra extract

Extraction process :

5gm of the powdered material macerated with 50ml of water,shaken frequently and allowed to stand for 24hr. There after filtered and used.

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2)

Murraya Koenigii

Synonyms : Sweet neem, Meetha neemKaidarya.

Biological Source :

Plant part used *:* Primarily the leaves, but roots, bark, and flowers are also used in traditional medicine.

Part of a tree : The aromatic leaves come from topical to subtropical tree.

Family : Rutaceae.

Uses :

Culinary : the leaves are a staple in indian cuisine, used fresh or dried to flavor curries and other dishes due to their distinctive aroma.

Medicinal : Digestive : Used for indigestion, diarrhea, dysentery, and mouth ulcer.

skin : Applied as a paste to treat skin disorders, to prevent premature graying.

Industrial : the essential oil used in soaps, lotions, and perfumes.

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Murraya Koenigii extract

Extraction Process :

5 gm of the prepared material macerated with 50ml of water, shaken frequently and allowed .to stand for 24 hrs. Thereafter filtered, evaporated the filtrate to dryness and weight was taken.

MATERIAL AND METHODS

Materials :-

Herb name	Part used	Use
Bel patra	**leaves**	**Ant-acne**

Methods :-

Preparation of herbal extracts

Extraction of Murraya koenigii :

5 gm of the prepared material macerated with 50ml of water, shaken frequently and allowed to stand for 24 hrs. Thereafter filtered, evaporated the filtrate to dryness and weight was taken.

Extraction of bel patra :

5 gm of the powdered material macerated with 50ml of water, shaken frequently and allowed to stand for 24 hr. Thereafter filtered and used.

preparation of formulation:-

Accurately weighed amount of both extract added to the gel base.

Triethanolamine was added drop wise to the formulation for adjustment of required pH.

Methyl paraben and Propyl paraben added as preservative.

Composition of developed formulation

Sr.no	Ingredients (gm)	Formulation code					
		F1	F2	F3	F4	F5	F6
1	Murraya koenigii extract	1	1	1	1	1	1
2	Bel patra extract	1	1	1	1	1	1
3	Methyl paraben	0.15	0.15	0.15	0.15	0.15	0.15
4	Propyl paraben	0.05	0.05	0.05	0.05	0.05	0.05
5	Triethanolamine	0.025	0.025	0.025	0.025	0.025	0.025
6	Gel base	30	30	30	30	30	30

EVALUATION OF FORMULATION

Physical evaluation:- Physical parameters such as colour, appearance and consistency were checked visually.

Washability:- formulations were applied on the skin and then ease and extent of washing with water were checked manually.

pH:- pH of 1% aqueous solution of the formulation was measured by using a caliberated digital pH meter at constant temperature.

Spreadability:- Spreadability denotes the extent of area to which the gel readily spread on application to skin or the affected part. The bioavailability efficiency of a gel formulation also depends on its spreading value. The spreadability is expressed in terms of time in seconds taken by two slides slip off from the gel, placed in between the slides, under certain load. Lesser the time taken for separation of two slides, better the spreadability. Two sets of glass slides of standard dimensions were taken. The herbal gel formulation was placed over one of the slides. The other slide was placed on the top of the gel, such that the gel was sandwiched between the two slides in an area occupied by a distance of 6 cm along

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the slide. A 30gm weight was tied to thwe upper slide carefully. The time taken for the upper slide to travel the distance of 6cm and separated away from the lower slideunder the influence of the weight was noted. The experiment was repeated three times both formulated gels and marketed gel and the mean time taken for calculation.

Formula:-

S=M×L/T

S=Spreadability.
M= Mass in gm (30gm).
L=Length of the glass (6cm).
T= Time in sec.

II. RESULT AND DISCUSSION

Formulation was slight yellowish in colour. Formulation F1,F2,F3,F4,F5 and F6 was found to have semisolid consistency. All the formulations were homogeneous, easily washable and had optimal pH which is well suited with normal skin physiology.

Evaluation of formulations

1) Formulation : F1, Colour : Slight yellowish, Consistency : Semi-solid, Washability : Good, PH : 5.5, Spreadability: 4.69.
2) Formulation : F2, Colour : Slight yellowish, Consistency : Semi-solid, Washability : Good, PH : 5.5, Spreadability : 9.34.
3) Formulation : F3, Colour : Slight yellowish, Consistency : Semi-solid, Washability : Good, PH : 5.7, Spreadability : 11.69.
4) Formulation : F4, Colour : Slight yellowish, Consistensy : Semi-solid, Washability : Good, PH : 5.2, Spreadability : 7.96.
5) Formulation : F5, Colour : Slight yellowish, Consistansy : Semi-solid, Washability : Good, PH : 4.74, Spreadability : 14.44.
6) Formulation : F6, Colour : Slight yellowish, Consistensy : Semi-solid, Washability : Good, PH : 4.72, Spreadabilty : 7.17.

Amongst all the formulations batches F1, F2, F3, F4, F5 and F6 had very optimum spreadability. F1 and F2 formulation batch showed comparatively more spreadability than F3,F4,F5 and F6. Parameters of batch F1 and F2 were found to have similar results near to result for the parameters of marketed formulation and hence F1 and F2 was finalized.

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DISCUSSION

From the above observations, it has been notified that since the formulation is made up of naturally occurring dried Herbal ingredients, there are almost negligible chances of the deterioration of the formulation, as there is no moisture Containing the element in raw as well as processed form.

However, the use provides smooth and clear skin within 4-5 days. Its continuous use shows superb effects such as flawless, radiant and clear skin.

III. CONCLUSION

Natural remedies are boon to any disease. It is safe as well as having less side effects. In the world market, herbal formulations are in a great demand. It is a very good attempt to establish the herbal face wash containing extracts of Murraya koenigii and bel patra. This study concludes that the developed formulation of batch F1 & F2 was comparatively better than other formulations.

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