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EXPLORING THE EFFICACY AND BENEFITS OF HERBAL FACE WASH

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ABSTRACT: Homegrown details have extending requests in the world showcase as a source of nourishment, beauty care products, and restorative purposes. The point of this thought is to define and assess the homegrown confront wash gel. There are three different types of herbal face wash: gel, cream, and liquid. The fixings required in this definition are extricated by the hydroalcoholic extraction strategy. Turmeric (Curcuma longa), Aloe Vera (Aloe berbadensis Linn), Lemon (Citrus limon), and Neem (Azadirachta indica) are exceptionally accommodating and do not have any side impacts. All the plants that have been utilized in this article have way better antioxidant, antimicrobial, and anti-inflammatory properties. Changing natural conditions and numerous poisons, particularly UV beams, are hurtful for the human body. They're harming our skin, so beauty care products are part of taking care of the skin and body parts. The Neem has more restorative properties, takes off, and their chemical constituents have been illustrated to display anti-inflammatory, antihyperglycemic, antiulcer, against jungle fever, antifungal, antibacterial, antimutagenic, and anti-carcinogenic properties. This is a consideration to assess the dermal security and adequacy of the homegrown detailing. The show work bargains with the arrangement of extricates and the planning and assessment of the homegrown confront wash. It is basic to assess the detailing to check their effectiveness and adequacy by utilizing over parameters such as color, odor, appearance, consistency, washability, pH, and spread capacity. The definition appeared to have no protuberances, along with simple washability, great spread capacity, and impartial PH.

Keywords: herbal face wash, hydroalcoholic, turmeric, antimutagenic, UV rays, anti-inflammatory, anti-carcinogenic.

INTRODUCTION:

In order to eliminate dead skin cells, oil, dirt, makeup, and other pollutants from the face's skin, a face wash is a particular kind of facial cleanser. You can also using a facial cleanser to get rid of them, albeit it may not work as well. The next wave of skin care is called cosmetics. The word "cosmetic" comes from the Greek word –"cosmetics," which means "pertaining to cosmetics" or "beautifying substance or preparation." The Greek term "kosmesia," "cosmesis," refers to two concepts: preservation Body beauty is bestowed or restored through surgical correction of physical deformities. Skin pores become clogged with oil and dead skin cells, which leads to the skin condition known as acne vulgaris. Whiteheads, pimples, and blackheads are also included.[1]

Back, chest, neck, and facial breakouts are possible in cases of severe acne. Alternatively, there may be more substantial, painful red lumps called cysts. Over 90% of teenagers are said to be affected by acne, which is most common during adolescence. Reduced rates in certain rural civilizations has been recorded. Beyond adolescence, things usually improve. For other women, acne has never existed. When they get older and become adults, they will frequently experience it just before their menstruation. In their forties, about 4% of people still struggle. PH of the normal skin is lies between 4.7-5.75.[2]

The anti-inflammatory and antioxidant properties of turmeric (Curcuma longa) are well-known for their ability to soothe and lessen skin redness. Due to its well-known calming and hydrating properties, aloe vera (Aloe berbadensis Linn) is a great choice for skin healing and hydration. A natural astringent that brightens the complexion and encourages the synthesis of collagen, lemon (Citrus limon) is high in vitamin C and helps to rejuvenate skin. Neem (Azadirachta indica) is highly valued for its strong antifungal and antibacterial qualities, which aid in the treatment of acne and the avoidance of new outbreaks. By minimizing the use of artificial substances that may be detrimental to the environment as well as human health, the trend toward natural ingredients promotes a more eco-friendly approach to self-care and beauty.

Fig: Herbal Face Wash

THE PURPOSE Of HERBAL FACE WASH :

- Cleansers containing herbs and botanicals are necessary for oily skin types to unclog pores and minimize oil accumulation.
- Sturdiness and aesthetic appeal are important.
- There should be no greasy or oily feeling when applying it.
- The residue of cream should not get thick when the water evaporates.
- It should spread effortlessly and not drag.[9,10]

CHARACTERISTICS OF HERBAL FACE WASH :

- It should become softer upon application to the skin.
- It needs to be and stable. It ought to spread without dragging with ease.
- The creamy residue shouldn't get thick once the water evaporates.
- During application, there shouldn't be any oily sensation.
- After usage, the skin should have a thin layer of emollient left on it.
- Rather than absorbing, its physical activity should be to open the pores and cleanse the skin.[9,10]

USES OF HERBAL FACE WASH :

- To remove makeup, bacteria, and pollutants from the face on a daily basis.
- Anti-aging.
- It facilitates the appropriate skin penetration of other products.
- To wash the skin.
- Encourages their skin cell regeneration and generation.[9,10]

ANATOMY OF SKIN: The skin serves as the body's largest organ and is responsible for several vital processes, such as regulation, protection, and feeling. The skin is comprised of three primary layers: the epidermis, the dermis, and the hypodermis (subcutaneous layer).[7]

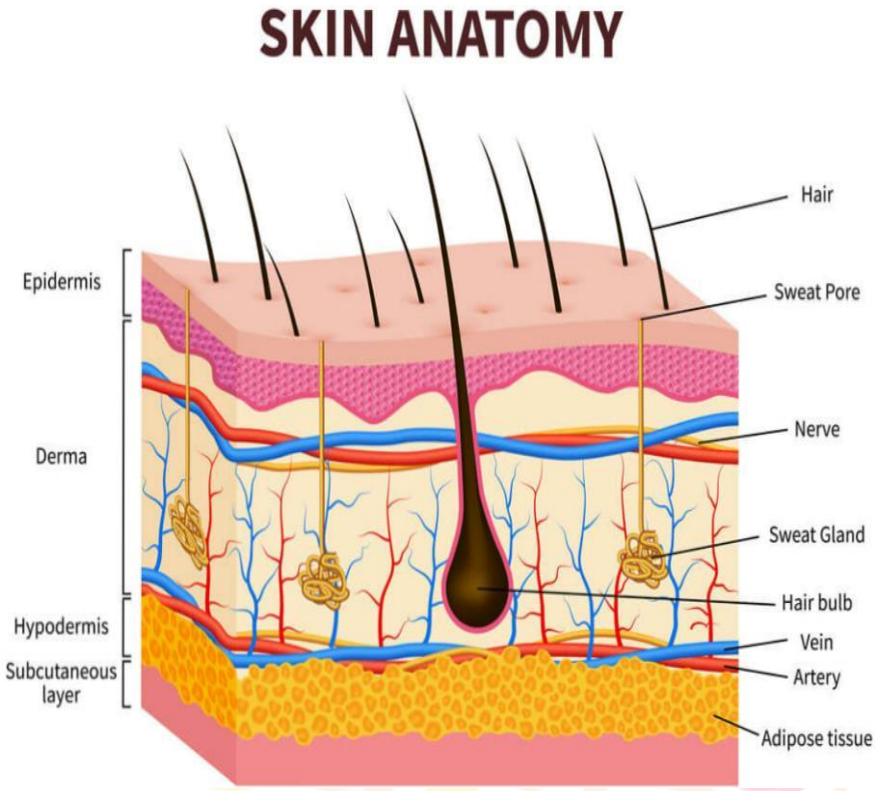

Fig: Human Skin Anatomy

THE EPIDERMIS:

The skin's outermost layer is called the epidermis. It acts as a barrier to protect the body from diseases, ultraviolet light, and physical harm from the outside world. The epidermis is predominantly made up of keratinocytes and is divided into several sub-layers:

- **Stratum Corneum:**
  1. Provides protection against environmental harm and stops water loss.
  2. The outermost layer is made up of dead, flattened keratinocytes that are constantly lost and regenerated.
- **Stratum Lucidum:**
  1. An extra barrier is present in regions with thick skin.
  2. It is a thin, transparent layer of dead keratinocytes.
- **Stratum Granulosum:**
  1. Comprises keratinocytes that are flattening and becoming more densely packed with keratin as a result of the keratinization process.
  2. include the creation of a lipid barrier that promotes water retention.
- **Stratum Spinosum:**
  1. Desmosomes (cell connections) cause the layer to become known as the "spiny" layer.
  2. Offers the skin elasticity and strength.
  3. Includes immune system components called Langerhans cells.
- **Stratum Basale:**
  1. The lowest stratum of the skin, made up of one row of stem cells.
  2. In charge of the ongoing keratinocyte manufacturing process.
  3. It has Merkel cells, which are involved in touch perception, and melanocytes, which create melanin (pigment). [4]

THE DERMIS:

Beneath the epidermis, the dermis is rich in collagen and elastin fibers, which provide it flexibility and structural support. There are two layers to it.

- **Papillary Dermis:**
  1. The upper layer of the dermis is made up of a loose connective tissue.
  2. It is rich in capillaries, nerve endings, and touch receptors (Meissner's corpuscles).
  3. It also have dermal papillae that interlock with the epidermis to improve the connection between the two layers.

- **Reticular Dermis:**
    1. Dense, asymmetric connective tissue makes up the thicker, deeper layer of the dermis.
    2. It has greater sebaceous glands, sweat glands, hair follicles, blood vessels, and sensory receptors.
    3. Offers the skin strength, flexibility, and structural integrity.[3]

THE HYPODERMIS (SUBCUTANEOUS LAYER):

The lowest layer of skin, referred to as the superficial fascia or subcutaneous layer, is called the hypodermis. It is divided into two layers:

- **Adipose Tissue:**
    1. Consisting of adipocytes, or fat cells, which store energy and give the body cushioning and insulation.
    2. It assists in controlling body temperature.
- **Connective Tissue:**
    1. Skin is provided flexibility and movement by the fibers of collagen and elastin, which bind the skin to underlying tissues like muscles and bones.

APPENDAGES OF THE SKIN:

Additionally, the skin has a number of appendages that are particular to its function:

- **Hair Follicles:**
    1. Originate in the dermis and spread to the epidermis.
    2. Generate hair shafts that aid in feeling and protection.
- **Sebaceous Glands:**
    1. Linked to hair follicles
    2. Stores secrete sebum, an oleic acid that coats and lubricates skin and hair.
- **Sweat Glands:**
    1. Eccrine Sweat Glands: Distributed throughout the body, these glands generate a light sweat that aids in controlling body temperature.
    2. Apocrine Sweat Glands: These sweat glands are located in particular places, such as the groin and armpits, and they secrete a heavier sweat that, when metabolized by bacteria, can cause body odor.
- **Nails:**
    1. Protect the tips of fingers and toes with hard keratin structures.
    2. Require a counterforce to improve touch sensitivity while grabbing objects.[11]

CONTENTS AND TECHNIQUES:

1. **Aloe Vera**

   Botanical name: Aloe berbadensis Linn (Aloe vera)

   Family: Liliaceae

   Applications: It is a moisturizing agent.

Fig: Aloe Vera

Casian recently looked at the antifungal qualities of aloe vera leaves.

Aloe vera grows to a height of 60–100 cm (24–39 in) as a stemless or very short-stemmed succulent plant that spreads through offsets.

Chemical components include vitamins, minerals, enzymes, carbohydrates, lignin, saponin, salicylic acid, and amino acids.

Aloin is the primary active ingredient in aloe. Skin integrity is enhanced with aloe vera gel.

2. **Lemon Juice**

Biological name: Citrus limon

Family: Rutaceae

Applications: for skin lightening and diminishing spots.

Fig : Lemon

It works really well for treating facial acne and pimples as well.

It functions in cosmetics as a naturally occurring PH adjuster.

It is also the greatest source of vitamin C and has the ability to treat constipation.

3. **Neem**

Botanical Name: Azadirachta indica

Family: Meliaceae

Application: It has germ-killing, antibacterial, antifungal, anti-inflammatory, antiseptic, and antihistamine properties. It is very helpful for oily and acne-prone skin.

Fig: Neem

Both antihistamine and antibacterial properties. Therapies for psoriasis, ringworm infection, eczema, and scabies.

Flavonoids, alkaloids, azadirone, nimbin, nimbidin, terpenoid, and steroids are the constituents.

Found all over the nation up to an elevation of 900 meters, this moderate-sized to rather large evergreen tree grows to a height of 12 to 15 meters with a sturdy trunk and spreading branches. Neem oil is extracted from its fruits and seeds.

4. **Turmeric**

Botanical name: Curcuma Longa

Family: Zingiberaceae

Applications: antimicrobial, antifungal, guards against numerous skin infections, and enhances facial radiance. . It is also known that turmeric lessens scarring.

Fig: Turmeric

The chemical components include vitamins, enzymes, minerals, carbohydrates, lignin, saponin, amino acids, and salicylic acid. The rhizomes are crushed into a rich orange-yellow paste either fresh or after boiling them in water and drying them.

Because of the qualities that curcumin, the main ingredient in turmeric, imparts, powder is frequently used as a coloring and flavoring agent in many Asian cuisines, notably for curries, as well as for ingredients.

INGREDIENTS USED WITH THEIR PROPERTIES [9]

Name of ingredients	Quantity	Uses
Aloe Vera	0.5gm	Antioxidant
Lemon Juice	0.5ml	Antioxidant
Neem	1gm	Anti- inflammatory
Turmeric	0.5gm	Antibacterial
Methyl Paraben	1gm	Preservative
Carbopol 940	0.025	Gelling agent
Sodium Lauryl Sulphate	1gm	Surfactant
Distilled Water	Qs	Vehicle
Rose oil	Qs	Flavor

FACEWASH IS MADE WITH A VARIETY OF ADDITIVES

1. **Humectant:**
   Humectants are compounds that naturally draw and hold moisture, which makes them perfect for use as components in face wash formulations. Moisturizers can help avoid dryness, flakiness, and other common skin problems by assisting in the maintenance of the skin's natural moisture balance.
2. **Preservatives:**
   Preservatives are chemicals that stop microbes from growing in a variety of things, including food, cosmetics, and medications. Propyl and methyl paraben is two of the preservatives that may be linked to this possible risk.
3. **Gelling Agent:**
   A material that may significantly raise a liquid's viscosity without causing it to thicken is called a gelling agent. Ingredients known as gelling agents will cause your water or oil to phase into a gel that is thickened without becoming rigid.
4. **Foaming Agent**:
   A chemical that is applied to a liquid to produce foam or other to produce bubbles and allow air to be trapped in the mixture, foaming agents act by lowering the liquid's surface tension. The liquid's surface then becomes covered with foam or froth due to these bubbles expanding.[8, 7]

METHODOLOGY :

In a beaker, combine 0.5 g of turmeric powder, 1 g of neem, and 0.5 g of aloe vera. Mix the ingredients for two to three minutes. The 0.025 g of carbopol that will melt using the double heat method will be given a span on induction and some water. A tiny amount of water will then be added to the container along with 0.025 g of carbopol , which will melt. Mix in after it has melted. Blend the ingredients in the melt, add the 0.5 g of lemon juice, and blend. When the preparation solution is ready, transfer it to a small face wash bottle and add the essential oil of lavender. The final face wash is ready , and it is packed in the bottle.[5]

Fig: Final product of Herbal Face wash

EVALUATION PARAMETER FOR HERBAL FACE WASH

1. **Color :**
   The formulation color of herbal face wash is Yellow.
2. **Odor :**
   The commercial formulation has a distinctive scent because it contains a rose oil formulation that smells rosy.
3. **PH :**
   At a constant temperature, the PH of a 1% aqueous solution of the formulation was measured using a calibrated digital PH meter.
4. **Spread ability:**
   Using a mild rub method, the gel was applied to the skin to determine the formulation's spread ability.
5. **Wash ability:**
   The substance was applied by hand and was visible when the water was flowing.
6. **Foam ability:**
   In a beaker, a small amount of gel was mixed with water. The beaker was shaken ten times to record the final volume after the initial volume was recorded.
7. **Viscosity:**
   A digital viscometer was used to analyze a prepared 10-ml sample that was put in a beaker. Subsequently, the outcomes were noted. [8, 6]

RESULT AND CONCLUSION:

Carbopol was used as a gelling agent to create a herbal face wash gel that contained extracts from neem, aloe vera, and turmeric powder. Evaluations of the formulation's color, odor, pH, spreadability, washability, and foam ability produced findings that were satisfactory. Due to the perception that herbal formulations are safer and have less adverse effects than synthetic ones, they are more widely accepted.[9]

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