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Formulation and evalution of liquid soap containg harbal drug and anti microbial agent.

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ABSTRACT:

The production and assessment of herbal cosmetics are examined in this review, with particular attention to natural face and body washes made with plant-based substances such Butea monosperma, Aloe vera, and neem (Azadirachta indica). In comparison to chemical-based products, herbal cosmetics are safer, more environmentally friendly, and suitable for a variety of skin types with few adverse effects. The review highlights the growing need for sulfate-free, mild surfactants in contemporary formulations by classifying cosmetics according to usage, function, and composition. The effectiveness of herbal extracts against a variety of microorganisms, including Staphylococcus aureus, Bacillus subtilis, and Candida albicans, is demonstrated by a thorough description of the extraction, formulation, and antimicrobial testing procedures, especially the cup plate approach. The developed goods' physicochemical analyses, which include pH, foamability, and alcohol-insoluble materials, verify their suitabiLego skin and quality. The results highlight the potential of herbal soaps and face washes as efficient skincare products by showing that they have noteworthy cleansing and healing qualities. In order to create safe, useful, and sustainable personal care products, this study combining traditional plant.

Keyword :- harbal drug,liquid soap ,anti microbial agent ,neem extract

Herbal cosmetics

Cosmetics made from herbs

Herbal cosmetics are products that are used to improve and enhance one's appearance. Herbal substances are preferred over chemical ones because they are more readily available and have fewer negative effects. In order to balance and improve the natural appearance of the face and other body parts, such as the hand, mouth, fingers, hair, eye, and others, cosmetics are a useful substance that are widely used throughout the world. Included are face packs, conditioners, moisturizers, lotions, shampoo, hair oil, powders, creams, nail polish, and other cosmetics. A handsome man or woman must have skin and hair that are lovely, shiny, and soft. Skin damage can be caused by a variety of environmental factors, including chemicals, microorganisms, and toxins. (1) Cosmetics are broadly divided into four types based on their use, function, composition, physical nature, and the region (body part) in which they are used. These are as follows:

- Cosmetics for skin care
- Cosmetics for hair care
- Cosmetics for nail care
- Cosmetics for personal hygiene

Skin care product: A wide variety of products intended to improve the skin's appearance and health are included in the category of skin care cosmetic.The field of skin care is broad and constantly changing, encompassing everything from cleansers to moisturizers, serums to masks. (3)

Cosmetics types

- **Based on the area**
  - Skin: lotions, rouge, lipstick, powder, etc.
  - Hair products include shampoo, conditioners, bleach, creams, hair dye, coloring preparation, and sprays, among others.
  - Nails: paint, polishing agents, etc.
  - Teeth: dentifrices, pastes, gels, and powders, among others.
  - Eye: Eyeshadow, mascara, eyebrow pencil, eyeliner, etc.
- **Based on function**
  - Emollient preparation: lotions, solutions, foundation creams, cold creams, and disappearing creams, among others.
  - Preparing for cleaning: Shampoo, body, face, and hand washes, soaps, etc.
- **Preparing the decorations: -**
  - Applying lipsticks, rouges, eyeliner, lacquers, and dressings.
  - Mouthwashes and spray sticks are examples of deodorant/antiperspirants.

- Preparing for protection: sunscreen, creams, and powders.
- Getting ready for fun: Salts. milk and oil powders.

- In line with compositions
- Powder
- (ii) Lotions
- Emulsion
- (iv) Remedies
- (v) Suspension
- (vi) cream
- (vii) paste
- (viii) Gels
- Aerosol
- Sticks (x)
- pencils, etc.

Body wash

In order to improve the washing effect, achieve the proper consistency (viscosity), color, fragrance, or product preservation, most body wash detergents and cosmetics are aqueous (10–20%) solutions of surfactants enhanced with various substances.Despite their many benefits, surface active agents have a number of drawbacks. The tendency of surfactants to irritate and cause allergies in detergents and cosmetics that come into frequent contact with the skin is one of their main disadvantages. A particular kind of liquid called body wash is used to cleanse the body during a shower. The viscosity of gel body wash is extremely liquid-like. Examples of foaming agents found in many products that are intended to create foam when applied to the skin are sodium lauryl sulfate (SLS) and sodium coco sulfate (SCS).: are two instances of foaming agents found in a variety of products that are intended to create foam when applied topically. All of these substances produce lather when applied to the body and come into contact with water, despite having radically different molecular structures and potentially affecting the skin in different ways. Unlike slippery soap bars, shower gels are liquid, making them easier for many people to wash. Furthermore, their fast-foaming formulas are excellent at washing the body without removing the outermost layer of skin. Body wash, sometimes referred to as shower gel, is a necessary component of our daily hygiene routine because it makes taking a bath enjoyable and aids in the removal of debris, oils, and pollutants from the skin.The science behind body wash composition is essential to creating products that effectively cleanse, nourish, and protect the skin without irritating or drying it out. In this comprehensive tutorial, we will look at the various parts, processes, and factors to be taken into account when creating body washes. As consumers gravitate toward natural and eco-friendly products, formulators may look into alternative chemicals that function similarly to traditional synthetic ingredients. For example, in sulfate-free body washes, softer surfactants like amino acid-based surfactants are used as primary surfactants, while secondary surfactants like cocomidopropyl betaine or cocoglucoside are used to provide gentle washing without irritating or drying out the skin.

Advantages ofherbal cosmetics

- Natural Products: Herbal cosmetics are all-natural and devoid of dangerous synthetic chemicals that could otherwise be fatal to the skin.
- Safe to use: The safest cosmetics are natural ones. Dermatologists have shown that these are hypoallergenic and safe to use anywhere, at any time. People don't have to worry about developing skin rashes or itching because they are made of natural ingredients.
- Suitable for every type of skin Natural cosmetics like lipstick, eye shadow, and foundation are suitable for all skin tones, regardless of how dark or fair your skin is.Women who have sensitive or oily skin can also use them without worrying about their skin condition getting worse.

Disadvantages of herbal cosmatic:-

The effects of herbal cosmetics are slower than those of allopathic dosage forms. Additionally, long-term therapy is necessary. Odor and taste are hard to cover up. The manufacturing process is difficult and time-consuming (4).

Described:

The soap-nut-like fruits and seed oil of Sapindus mukorossi Gaertn. (Sapindaceae) make it a valuable plant in the commercial world. This oil is used as a feedstock to make biodiesel. The molecular polymorphism derived from three single primer amplifying reaction (SPAR) techniques (RAPD, DAMD, and ISSR) is used to assess the genetic variation in 69 accessions of S. mukorossi Gaertn., which span multiple geographical locations in India. Cumulative band data using the three SPAR techniques revealed 82.49% polymorphisms across all genotypes of S. mukorossi Gaertn. The two primary clusters that the UPGMA tree showed represented the geographic diversity.

Material and Methods

Content

Aloe vera leaves, neem leaves, sodium luryl sulphate, methyl paraben, glycerine, and rose oil. 14 Approach Extraction of Neem Fresh neem leaves are collected and then allowed to dry for 15 days. mortar and pestle were then used to grind the dried leaves.
100 milliliters of methanol and 25 grams of powered neem leaves are macerated in a beaker.The prepared mixture was covered with aluminum foil and allowed to macerate for three days, stirring occasionally, before being filtered through filter paper.A rotary evaporator is used to remove excess solvent, and a hot water bath is used to dry the remaining mixture.After being collected, the dried extract was placed in a desiccator to cool.Weighing the prepared extract (4)

Plant profile:-

Herbal drugs are using in body wash.
Neem, orenge peel,basil (Tulsi),rose , honey
1.Neem
Classification
Scientific name – Azadirachta Indica
Family – Meliacea
Order – Sapindales
Higher classification – Azadirachta
Kingdom – plantae
Genus – Azadirachta
*Properties:
The antibacterial properties of Neem fight acne -causing bacteria, which helps in the treatment and prevention of acne. It's extremely useful in controlling oil production in the skin. Tackles black heads and white heads.Fight signs of ageing. Pacify irritated skin.

(2) Orange peel
Classification
Scientific name – citrus aurantium dulcis
Family – Retaceae
Order – Sapindales

Kingdom – plantae
Genus – Citrus
***Properties**

- Protect skin from free radical damage
- Heals dry, flaky and itchy skin.
- Hydrates dehydrated skin.

- Brings Back moisture.
- Helps skin cell to keep youthful and glowindigita.

3.Basil (tulsi)

Classification

Scientific name – Ocimum tenuiflorum

Family – lamiaceae

Order – lamiales

Kingdom – plantae

Genus – ocimum

***Properties**

- It is used as antioxidants
- It is used as antimicrobial agent.
- It is used as antipyretic agent.
- It is used as anti-inflammatory agent.

(4) Rose

Classification

Scientific name – rosa.

Family- Rosaceae

Order – Rosales

Kingdom – plantae

Genus – Rosa

***Properties**

- It used as Antidepressant.
- Antiallergic.
- Antiseptic and flavouring agent.
- It is used to beautify the skin.

(5) Honey

• It is produced from the bees.

Classification

Family – Apidae

Order – Hymenoptera

Kingdom – Animalia
Phylum – Arthropoda
Class – Insecta

***Properties**

- Cures acne.
- Heals wounds.
- Builds stamina.
- Smoothens skin.

6)Soap nut
Taxonomical classification:

Kingdom: Plantae
Subkingdom: Tracheobionta
Superdivision: Spermatophyta
Division: Magnoliophyta
Class: Magnoliopsida
Subclass: Rosidae
Order: Sapindales
Family: Sapindaceae
Genus: Sapindus
Species: Trifoliatus
Description:
In the commercial world, Sapindus mukorossi Gaertn. (Sapindaceae) is a valuable plant because of its soap nut-like fruits and seed oil, which is used as a feedstock for the manufacturing of biodiesel. The genetic variation in 69 accessions of S. mukorossi Gaertn., spanning several geographical locations in India, is evaluated by molecular polymorphism obtained utilizing three single primer amplifying reaction (SPAR) techniques (RAPD, DAMD, and ISSR). Using the three SPAR techniques, cumulative band data showed 82.49% polymorphisms among all genotypes of S. mukorossi Gaertn. The geographical diversity was reflected in the two main clusters that the UPGMA tree displayed

Table:-

Ingredients	Use	Quantity (f1)	Quantity (f2)
Neem	**Anti bacterial**	**10ml**	**10ml**
Orange peel	**Skin brightening**	**8 ml**	**7ml**

Alo vera	**Moisturizer**	**8ml**	**10ml**
Soap nut	**Surfactant**	**10ml**	**3ml**
Triethanol amine	**Preservative**	**4ml**	**6ml**
Xanthan gum	**Gelling agent**	**5ml**	**6ml**
Rose oil	**Essential oil**	**5ml**	**6ml**

Antimicrobial Activity Screening Tests:

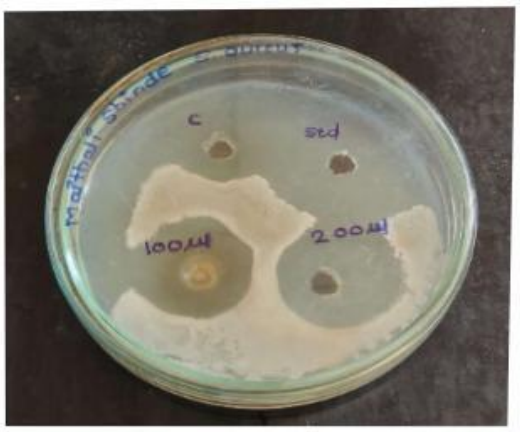
The anti-microbial activity of the prepared Herbal body Wash was tested by the cup plate technique on Candida albicans, Staphylococcus aureus and Bacillus subtillis. The analysis of the cup plate technique indicated that the hand wash prepared from the methanol extract of the combined plant materials was more efficient than the body wash activity shown in the commonly available table.

Plate preparation for analysis:

After the suspension is prepared, use each 2 ml of culture suspension of S. aureus is to inoculate separately in 200 ml of sterile molten and cooled medium at 40℃ – 45℃ Antibiotic Assay Medium .15-20 ml of Sterilized agar medium is poured into a sterile Petri plate with the help of sterile measuring cylinder give a depth of 3 to 4 mm. Allow to cool at room temperature by placing the dishes or plates on a level surface.Keep plates in refrigerator for 15 to 20 minute for hardening. Ensure that the layers of mediumare uniform in thickness. Make 4-5 agar cups on each plate using 8-10 mm SS borer. Label the plates for sample, standard and negative control samples and analysis details.

Analysis:

The volume of solution added to each cylinder or cavity must be uniform and sufficiental most to fill the holes when these are used. Add 100 µl Img/ml



= Solution B to agar cup labeled for each compound ID labeled on plate.Add 100 µl base to agar cup labeled as N (Negative). Leave the dishes or plates standing for 15-20 min. at 2-8℃ or as appropriate, as a period of pre- incubation diffusion to minimize the effects of variation in time between the applications of the different solutions. Incubate them for about 24-48 hours at the temperature 30-35℃ for bacteria and 20-25°C for yeast and mould. After completion of incubation accurately measure the diameters or areas of the circular inhibition zones and record the results.

Evolution Test:

- Colour: The Colour of face wash formulation checked visually, it has orange colour.
- pH : pH of formulation is 6.8.
- Fomability: 1ml of formulation taken in a water containing cylinder, initial value is noted then shacked upto 10 min , note down final value.
- Spreadability: Easy To Spread.
- Skin Irritation: Formulation applied to skin, after applied, it doesn't cause irritation.
- Washability: Product Was Applied On Hand And Wash Under Running Water

- Antimicrobial activity:The antibacterial activity is estimated by comparing the inhibition of growth of sensitive micro- organisms produced by known concentration of the isolated substance or extract or synthetic compound to be examined against a reference substance.(3)

Result and disscusion:-

The evaluation of anti-microbial herbal soap was performed successfully and The prepared herbal soap was shown in figure 1. Thephysicochemical parameters for herbal soap formulations F1 and F2 such as color, appearance, pH were determined. The formulations have a light pink color with an aromatic odor and had a good appearance as well as the pH was found to be in the range of 6.8to7.0. Healthy skin has a pH of 5.4 to 5.9 and the prepared formulations pH was found to be neutral in nature and doesn't cause any irritation or sensitization to the skin. Other parameters like foam height, foam retention were also performed and showed good results, the prepared soaps produced good lather i.e. 2.5-3.0 cm and retained on the skin for 3 minutes. Alcohol insoluble matter was also evaluated successfully which was found to be 15-18 %, indicates that the prepared soaps were free from non-soap ingredients and soft soaps were produced which improves the overall quality of the soap. The anti-microbial activities of herbal soaps were studied

Sr.no	Test	Result
1)	Colour	Orange
2)	PH	6.8
3)	Foamability	Form foam
4)	Spreadability	Easy to spread
5)	Washability	Washable
6)	Antimicrobility	Positive
7)	Anti acne	Positive
8)	Viscocity	1632cp

Conclusion:

In conclusion, the creation of a body wash that includes extracts from neemAloe vera, and Neem offers a promising approach to skincare that has both medicinal and cleansing properties. The study emphasizes the function of natural compounds with antibacterial, antioxidant, and anti-inflammatory characteristics in cosmetics. The new body wash showed promise in treating acne and maintaining skin health as it demonstrated strong antibacterial action against Propionibacterium acnes and Staphylococcus aureus. In addition, the composition was meticulously designed with viscosity, pH, foamability, and spreadability in mind to guarantee efficacy, stability, and safety. Along with other essential components, the addition of extracts from neemAloe vera, and Neem emphasizes a holistic approach to skincare by utilizing the therapeutic properties of natural resources.

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