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Preparation and Evaluation of Herbal Cosmetic

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Abstract

In this investigation herbal cosmetics namely Liquorice cold cream and Catechu shampoo were prepared and evaluated. This investigation for herbal cosmetics was done for reducing toxicity for long term use in skin effectively using various herbal ingredients prepared in the laboratory such as tulsi extract, catechu extract, liquorice extract, and clove water. Liquorice cold cream provides numerous skincare benefits , thanks to liquorice extract's properties: It hydrates and nourishes dry skin, leaving it smooth and supple, cures uncomfortable conditions of skin itching, redness, removes dark colors, excessive pigmentation, fights free radicals, decreasing fine lines, wrinkles, and characteristics of pre-aging, improves acne-responsible bacteria, inhibiting breakouts, produces softened beauty, creating a model for allergic or irritated skin, scar reduction, inhibits melanin production, preventing new dark spots. Tulsi extract, catechu extract, and clove water offer various benefits when incorporated into herbal shampoo formulations: antimicrobial activities clears the scalp of head, lowering the chances of allergy like dandruff, astringent actions hardens scalp roots, decreasing excess oiliness and gives a healthier scalp, antiseptic properties cleanse the scalp and inhibit bacterial and fungal growth, addressing issues like dandruff, it stimulates blood circulation in the scalp. Liquorice Extract: With its anti-inflammatory properties, liquorice extract soothes the scalp, addressing issues such as dandruff, itching, and irritation.

Keywords: Herbal Cosmetics, Liquorice Cold Cream, Catechu Shampoo, Skin Care Benefits, Natural Ingredients

INTRODUCTION

In contemporary times, there has been a significant rise in the utilization of herbs in cosmeceutical production within the personal care sector, accompanied by a burgeoning demand for herbal cosmetics. Application as externally for objectives like clearing, brightening, improving appearances, and changing skin complexion, without affecting the body's physiology . The term "cosmetic" finds its roots in the Greek word “kosm tikos,” signifying proficiency in decoration [1].

The historical origins of cosmetics trace back to activities like hunting, warfare, religious rituals, and superstitions, later intertwining with medicinal practices. With evidence highlighting the adverse effects of synthetic compounds, chemicals, and dyes on skin health, there's a growing preference for herbal cosmetics. Traditional medical systems like Ayurveda, Unani, and homeopathy are the source of inspiration for skincare products. Herbal compounds have a wide range of beneficial qualities, such as antibacterial, anti-inflammatory, antiseptic, emollient, anti-seborrheic, and anti-keratolytic effects. Cosmetic formulations targeting skin concerns like wrinkles, acne, and oil control incorporate a range of materials, natural or synthetic [2].

The inherent natural content of herbs not only lacks adverse effects but also offers essential nutrients and minerals to the body [3].

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Natural cosmetics stand out for their safety, hypoallergenic nature, and dermatologist-approved formulations, ensuring minimal risk of skin rashes or itchiness.

In the 21st century, the concept of natural cosmetics revolves around achieving a harmonious blend of nature and technology, combining pure bioactive ingredients with innovative performance. The philosophy underlying natural cosmetics emphasizes the synergy between nature's simplicity and cutting-edge technology, striving to enhance appearance without compromising skin health. Modern natural cosmetic products steer clear of potentially harmful substances, promoting skincare without harm. This study aims to compile information on herbal plants used in various cosmetics, elucidating their constituents and activities in cosmetic preparations. Cosmeceuticals, the fastest-growing segment of personal care products, harness biologically active principles and plant-derived ingredients. The emergence of "Cosmetic Phytognosy" as a scientific discipline focuses on studying the biochemical properties of plant-derived ingredients for cosmetic use. According to the Drug and Cosmetic Act of 1940, cosmetics encompass articles or preparations intended for application to any part of the human body for cleansing, perfuming, beautifying, enhancing attractiveness, or altering appearance, including components thereof. The integration of natural herbal ingredients in personal and health care products offers enhanced experiences, supported by recent research highlighting the effectiveness and gentleness of herbs. In contrast, potent synthetic preparations and chemicals, while effective, pose a toxic burden on the human body. Herbal cosmetics, formulated with diverse natural herbal ingredients, represent a safer alternative in the realm of skincare products.

Herbal cosmetics utilize botanical ingredients sourced directly from nature, devoid of harmful synthetic compounds. By incorporating plant extracts and parts into their formulations, herbal cosmetics can rival the effectiveness of synthetic alternatives. For instance, aloe vera gel and coconut oil are commonly used herbal ingredients known for their beneficial properties. Additionally, herbal cosmetics are enriched with natural nutrients such as Vitamin E and Vitamin C, which nourish and enhance the skin's appearance. Aloe vera, belonging to the liliaceae family, serves as a prime example of an easily accessible herbal plant species. Various customers are enhancing concern regarding the positivity of toxic synthetic chemicals and mineral oils in ancient cosmetics. As a result, they seek out products with natural ingredients that are traceable and free from harmful substances, prioritizing both safety and efficacy [4, 5].

Synthetic beauty products have been known to trigger skin irritation and rashes, while also potentially clogging pores and causing imbalances in skin moisture. In contrast, herbal cosmetics pose minimal risk of adverse reactions. These products are safe for the skin and unlikely to have any unfavorable side effects because they are made with natural ingredients. For instance, herbal cosmetics are often free from parabens, a common preservative in conventional cosmetics known for its potential to disrupt hormone function and penetrate the skin. By avoiding such harmful additives, herbal cosmetics offer a reassuring option for skincare needs [6, 7].

Natural cosmetics present a cost-effective option for consumers. Surprisingly, many of these products are more budget-friendly than their synthetic counterparts. They are often available at discounted rates, especially during sales events. By exploring various options and keeping an eye out for special offers, individuals can find excellent deals on natural cosmetics. According to estimates by the World Health Organization (WHO), approximately 80% of the global population relies on natural products for their healthcare needs. This trend is driven by concerns over the side effects of conventional medicines and the escalating costs of modern healthcare. WHO actively promotes traditional herbal remedies within natural healthcare initiatives, emphasizing their accessibility, affordability, and relative safety compared to mainstream alternatives [8].

The term 'cosmeceuticals' represents one of the rapidly expanding segments within the beauty industry. These products bridge the gap between cosmetics and pharmaceuticals, aiming to enhance

both the health and aesthetics of the skin by delivering targeted outcomes such as acne control, sun protection, and anti-aging effects. They serve as protective agents while also promoting skin radiance [9]. Cosmeceuticals represent the next evolutionary step in skincare, embodying advancements in dermatological products and forming a new cornerstone in skin health. They typically combine cosmetic and pharmaceutical elements to improve skin health and appearance. While some cosmeceuticals utilize natural ingredients, others are synthesized, yet all contain active components with therapeutic, disease-combating, or healing properties [10]. The concept of "cosmeceutical" was introduced by Raymond Reed, the founder of the U.S. Society of Cosmetic Chemists, and was later popularized by American dermatologists. Unlike synthetic beauty products, which can sometimes irritate the skin and lead to acne breakouts or pore blockages resulting in dry or oily skin, natural cosmetics offer a worry-free alternative. Their natural ingredients ensure minimal side effects, allowing for application at any time and in any place. For instance, herbal cosmetics are devoid of parabens, the commonly used preservative in cosmetics known for its ability to penetrate the skin.

Classification of Cosmetic Preparations

Cosmetic preparations are typically categorized into three main types:

- *Solid:* Examples include face powder, talcum powder, and compact powder.
- *Semisolid:* This category comprises creams, ointments, and liniments.
- *Liquid:* Includes lotions, hair oils, shampoos, mouthwashes, sprays, and similar products.

Utilizing Herbs, Historically, herbs have served dual purposes: medicinal and beautification. They were employed in both fresh and dried forms, often applied directly to the body, either alone or in combination with other ingredients. However, contemporary practices involve the use of extracts, decoctions, infusions, tinctures, and steam distillates.

Herbs can be used in many different ways, even though there are many producers of herbal products in India:

- *Infusions:* These are potent herbal teas prepared in china clay or stainless steel vessels, as aluminum vessels can affect the infusion's purity.
- *Decoctions:* It was made by dissolving herbs in water and heated for 10mins-15mins.
- *Extracts and Tinctures:* Extracts basically originated with the help of hydro-alcoholic vehichles with a high alcoholic strength.
- *Flower Waters:* Flower waters are produced similarly to infusions, utilizing the same herb-to-water ratios.

Raw Materials Commonly Used in Herbal Cosmetics

Various raw substances are used in the manufacturing of herbal beauty products, adding oils, waxes, gums, hydrophilic colloids, colors, perfumes, protective substances, bleaching substances, preservatives, antioxidants, and other auxiliary substances.

Oils

Oils, sourced from both vegetable and mineral origins, are crucial components in cosmetics. Almond, arnica, castor, olive, and coconut oils are examples of vegetable oils. Light and heavy paraffin are examples of mineral oil species.

- *Almond Oil:* Almond oil, a fixed oil extracted from the seeds of Prunus amygdalus of the Rosaceae family, is pale yellow in color and possesses a characteristic odor. Its active ingredients are firstly made of glycoside compounds with oleic acid, linoleic acid, myristic acid, and palmitic acid. Known for its emollient properties, almond oil finds application in cream and lotion formulations [11–14].
- *Arachis Oil:* Also known as peanut oil, arachis oil is a fixed oil extracted from the seeds of Arachis hypogaea of the Leguminosae family. It appears pale yellow with a faint nutty scent.

Refined versions are colorless and primarily comprise oleic and linoleic acids, alongside other minor acids. Arachis oil is used in hair oils and brilliantines, solidifying at lower temperatures.

- *Castor Oil:* Derived from the seeds of Ricinus communis from the Euphorbiaceae family, castor oil possesses a slight odor and can be either yellow or colorless. Its main constituent, ricinoleic acid, constitutes about 80% of its composition. As an emollient in lipsticks, hair oils, creams, and lotions, castor oil remains transparent at 0°C.
- *Olive Oil:* Obtained from the fruit of Olea europaea of the Oleaceae family, olive oil appears pale yellow to greenish yellow with a mild odor. Its glycerides consist of myristic acid, stearic acid, linoleic acid, palmitic acid, and oleic acid. Olive oil exhibits emollient and soothing properties, finding use in creams, lotions, and bath oils.
- *Coconut Oil:* Extracted from the dried solid portion of the coconut's endosperm (Cocos nucifera, family Palmae), coconut oil shows as a white or pearl-white unctuous weight in winter and colorless in summer.
- *Light Liquid Paraffin:* This mixture of hydrocarbons manifests as a colorless and odorless oily liquid with low viscosity and weight per milliliter. Because of its greater spreadability, light liquid paraffin is used in bath oils, hair oils, brilliantines, lotions, and creams.
- *Heavy Liquid Paraffin:* Comprising a colorless and odorless oily liquid, heavy liquid paraffin exerts a soothing effect on the skin. This petroleum-derived ingredient finds application in hair oils, bath oils, brilliantines, creams, and lotions.

Waxes

Waxes, derived from esters formed by high molecular fatty acids and alcohols, serve as bases in cosmetics alongside oils and fats.

- *Beeswax*, a purified wax obtained from honeycomb, consists mainly of ester myricyl palmitate and aids in emulsion formation. It is solid, yellowish-brown in color, and brittle under cold conditions, with a melting point of 62°C-65°C when unbleached.
- *Carnauba wax* is extracted from the leaves of the Copernicacerifera, a member of the Palmae family, which is also known as the Brazilian wax palm. It is offered in various grades, with the highest grade exhibiting a light-brown to pale-yellow hue. Typically discovered in the feature of better coarse powder or flakes, it radiates a specialized bland scent. Carnauba wax possesses a melting range of 81°C - 86°C and is recognized for its hardness. Its applications span across the manufacturing of candles, wax varnishes, leather treatments, and furniture polishes.

Colours

Color has been a crucial component of cosmetics throughout history, appealing to human senses such as sight, touch, and smell. It serves as one of the fundamental elements in cosmetic formulations, creating visual sensations through various phenomena like emission, reflection, refraction, or transmission of light. The following provides brief explanations of earthly colors, including chlorophyll, saffron, and cochineal.

- *Cochineal:* Cochineal, a red dyestuff, is resourced from the moisturekess female insect, Dactilopius coccus, inhabitant to the Coccidae family. Its main coloring constituent is carminic acid, which forms red needles upon crystallization. The cochineal extract is prepared by extracting with water and then precipitating the red aluminum salt, carmine lake, by adding alum to the solution.
- *Saffron:* Saffron consists of the stems and tops of the styles of Crocus sativa, a plant from the Iridaceae family. This perennial plant is cultivated in regions like Jammu and Kashmir in India. Saffron powder, with its yellowish presence, is freely soluble in water, preparing it as a controlled flavoring and coloring products in food mixtures. It contains various carotenoids, including crocin, an essential saffron carotenoid, and picrocrocin, a colorless bitter glycoside responsible for saffron's distinctive aroma.
- *Chlorophyll:* Chlorophyll is a natural green pigment abundantly found in nature, primarily responsible for photosynthesis.

Perfumes

- *Rose:* Rose oil is obtained through steam distillation from the flower petals of Rosmarinus officinalis, belonging to the Labiatae family. The blossoms are harvested before they fully open, typically just before sunrise, to obtain rose oil.
- *Jasmine Essential Oil:* It was obtained from the flowers of Jasminum grandiflorum from the Oleaceae family, jasmine essential oil is produced through solvent extraction. Its essence looks up huge utilization in the scent production scale.
- *Lavender:* Lavender oil is obtained from the flowers and stalks of Lavandula officinalis, a member of the Labiatae family.
- *Tuberose:* Tuberose oil, recognised as the "mistress of the night," is a brown, Semi-liquid with a sweet, heavy, and feeling of scent.
- *Geranium:* The flowers, leaves, and stalks of Pelargonium graveolens, a member of the Geraniaceae family, are the source of geranium oil. Its essence is manufactured through the distillation method, characteristically from the flowers and stems, getting the title geranium bourbon.
- *Champa:* Champa oil is resourced from the flowers of Michelia champaka, expressing presence in difference from yellow to deep orange.
- *Cinnamon:* Cinnamon oil, prized for its warm, spicy, and sweet character, is extracted from various parts of the cinnamon tree, particularly its leaves, bark, and roots. Cinnamon zeylanicum is a member of the Lauraceae native.
- *Neroli:* Neroli essential oil is distilled from the flower of the bitter orange tree and can be stored in amber-colored bottles in refrigeration.
- *Clove:* Containing essential oils, clove oil is obtained from the buds of Eugenia caryophyllus, a member of the Myrtaceae family.

Paraffin Wax is a product of petroleum distillation, consisting predominantly of solid hydrocarbons, particularly n-paraffins along with some isomers. Also known as hard paraffin wax, its physical features being colorless, odorless, or a white, translucent, wax-like solid, which makes it slightly greasy to the touch. Paraffin wax exhibits a melting range of 50°C - 57°C.

Cetylpalmitate and cetylimyristate give spermaceti, which is made from the skull, blubber, and ear case of the local Physeter colodon sperm whale, a powerful combination. This hard wax represents a unclear crystalline, pearly-white, unctuous weight, with less odor and flavor. It is changed at a specific gravity of about 0.94 into liquid. Synthetic feature of spermaceti, comprising of esters of saturated fatty alcohols and acids, shows its normal counterportion. Synthetic spermaceti is present in white to off-white unclear flakes with a crystalline morphology and pearly appearance, melting at 43°C - 47°C [15].

Ambrette

Ambrette seeds yield oil through the expression method. The resulting oil is rich, with a sweet, floral, and musky fragrance. It is valued for its potential as an anti-aging agent.

Sandalwood

The hard wood of Santalum album, a plant in the Santalaceae family, is used to make sandalwood oil through steam distillation. Commonly used as a fixative agent in perfumes, sandalwood adds a distinctive aroma to various cosmetic products.

Protective Agents

In cream formulations, silicones serve as protective agents. Silicones can be combined with beeswax, paraffin, and petroleum jelly to form barrier lotions that work well.

Bleaching Agents

Various bleaching agents have been utilized, although the use of mercury compounds is currently prohibited in cosmetics due to safety concerns.

- *Hydroquinones:* Hydroquinones are often used as bleaching agents to brighten skin tone momentarily. However, higher concentrations may lead to redness and burning, with potential reverse effects upon sunlight exposure or discontinuation.
- *Catechol and its complexes:* Catechol and its complex shows skin-lightening actions, albeit with the powerful for allergy and others reactions at higher strengths.
- *Ascorbic Acid and its derivatives:* Ascorbic acid, though not highly acted as a de-pigmenting cursor, is deemed toxin-free for use. It is often incorporated into skin bleaching creams containing hydroquinone as an antioxidant stabilizer, typically at concentrations of 3% to 5%.

Oxidizing Agents

Hydrogen peroxide is a common oxidizing agent utilized in skin bleach creams, while zinc peroxide is occasionally employed in anhydrous ointments, though its properties are not extensively validated.

Opaque Covering Agents

Cosmetic products containing white or pale pigments such as titanium dioxide, zinc oxide, talc, kaolin, and bismuth can provide temporary yet noticeable changes in skin color.

Preservatives

Preservatives are crucial for preventing spoilage and microbial growth in cosmetic products, especially those containing water. They must possess attributes like compatibility, solubility, stability, and safety. Examples include organic acids, alcohols, aldehydes, phenolics, esters, mercury compounds, surface-active agents, and miscellaneous compounds.

Antioxidant Agents

Antioxidants are added to cosmetics to prevent oxidative spoiling from causing lipids and oils to go rancid. Common antioxidants include amines, phenols, quinones, esters, organic acids, and alcohols. These compounds help maintain the stability and quality of cosmetic formulations [16, 17].

Herbs Used in Cosmetics/Cosmeceuticals

Natural herbs offer a plethora of benefits for skincare, hair care, and as antioxidants and perfumes. Here are some commonly used herbs in cosmetic preparations:

Skin Care

- *Coconut Oil:* Renowned for its moisturizing and softening properties, coconut oil is derived from the fruit or seed of the coconut palm tree (Cocos nucifera). It has large concentrations of lower chain fatty acid glycerides and between 60 and 65 percent oil. With a melting point of 24 to 25°C (75-76ºF), coconut oil can be utilized in liquid or solid forms, making it versatile for various cosmetic applications including cooking and baking.
- *Olive Oil:* Derived from the fruits of the Olea europaea plant, olive oil is a fixed oil that contains high levels of components like squalene, β-sitosterol, triolein, tripalmitin, trilinolein, tristearate, and monosterate. It served as an essential fatty acid penetration enhancer in addition to acting as a skin and hair conditioner in cosmetics like lotions and shampoos.
- *Aloe Vera:* Belonging to the family Liliaceae, aloe vera is a versatile herbal plant known for its healing, moisturizing, and softening effects on the skin. Its gel contains amino acids, vitamins (A, C, E, B, choline, B12, folic acid), saponin glycosides, and antioxidants, providing cleansing and antioxidant properties. Simply extracting the soothing gel from an aloe vera leaf can offer numerous skincare benefits.
- *Green Tea:* Cultivated for thousands of years in Asia, the tea plant (Camellia sinensis) yields green tea, rich in polyphenolic catechins such as (2)-epicatechin (EC), EGC, (2)-EC-3-gallate, and EGCG (epigallocatechin-3-gallate). These compounds exhibit potent antioxidant properties and have been found to inhibit chemical and photocarcinogenesis, making green tea extracts a valuable addition to skincare formulations.

- *Calendula:* Calendula officinalis possesses remarkable antioxidant, anti-inflammatory, and wound healing properties. T-muurolol, 1,8-cineole, α-thujene, and dihydrotagetone are among the constituents of its essential oil that lead to its therapeutic benefits. Incorporating calendula extracts into cosmetic formulations can promote skin health and vitality [18, 19].
- *Turmeric:* A deep yellow-to-orange powder with skin-protecting and antiseptic properties. It decreases UVB-induced sunburn, a natural skincare ingredient.
- *Multani Mitti (Fuller's Earth):* A natural clay with various skincare benefits, including oil absorption, moisturizing, exfoliation, and treatment of acne and sunburn. It helps cleanse and unclog pores, leaving the skin refreshed and revitalized.
- *Oat (Avena sativa):* Rich in antioxidants and earthly emollients, oat oil is generally taken in lotions, creams, and facial oils for emollient actions on smoothing skin.
- *Sandalwood (Chandan):* Used in scrubs and face packs to exfoliate the skin, promote the regeneration of new cells, and impart a youthful appearance. It also acts as a detanning product for healing sunburn.
- *Jojoba Oil:* Jojoba oil, derived from the seeds of the desert shrub Simmondsia chinensis, is a versatile moisturizer and a foundation oil for fragrances inspired by exotic plants used in cosmetics. It is softly cleared, odorless, and oxidatively stable, making it available for many skincare formulations.

Hair Care

- *Henna:* Derived from the plant Lawsonia inermis, henna powder contains lawsone, a natural dye molecule. Besides coloring the hair, henna also beautifies and reforms the scalp, enhancing enough hair growth and removing hair loss.
- *Shikakai:* The fruits of Acacia concinna are traditionally used for washing hair and improving hair growth. Rich in saponins, alkaloids, sugars, and flavonoids, shikakai powder cleanses the scalp and strengthens hair follicles.
- *Amla (Indian Gooseberry):* Recognised for its high vitamin C concentration, amla improves hair growth, astops premature greying, and stiffens hair follicles. It is commonly utilized in hair oils, shampoos, and hair masks.
- *Hibiscus:* Hibiscus sabdariffa extract is high in calcium, phosphorus, iron, and Vitamin B1. It stimulates thicker hair growth and prevents premature greying of hair, making it a popular ingredient in hair care products.
- *Walnut:* Walnut leaves are used in traditional medicine for treating various scalp conditions such as eczema, itching, peeling, and dandruff. Walnut extract helps soothe the scalp and promote healthy hair growth.
- *Neem:* Known for its antifungal, antibacterial, and anti-inflammatory properties, neem is effective in treating dandruff and other scalp conditions. It helps cleanse the scalp, relieve itching, and promote healthier hair [20–23].

Antioxidants

- *Tamarind:* Tamarind is rich in minerals, fatty acids, and amino acids. It is derived from Tamarindus indica L., a member of the Fabaceae family. Tartaric acid gives it a sweet, tangy flavor. Tamarind is a valuable source of vitamins, minerals, and antioxidants, exhibiting high phenolic content. It possesses numerous health benefits and is often used as a food source.
- *Carrot:* Obtained from the Daucus carota plant of the Apiaceae family, carrots are rich in Vitamin A and other essential vitamins. Carrot seed oil is prized for its anti-aging, revitalizing, and rejuvenating properties. The characteristic bright orange color of carrots comes from β-carotene, which is partly metabolized into Vitamin A in the human body.
- *Vitamin C:* Vitamin C, which is necessary for collagen synthesis and skin health, works to prevent photodamage and promote collagen repair. It is known to renew the external of photo-aged skin and is naturally used in skincare products.

- *Vitamin E:* Alpha-tocopherol, the main lipophilic antioxidant in plasma membranes and tissues, is share of the Vitamin E class, which have tocopherols and tocotrienols. Vitamin E reacts with lipid peroxyl radicals, preventing cell membranes from oxidative destruction and lipid peroxidation.

Essential Oils

- *Rose Oil:* Extracted from various species of roses such as Rosa damascena, R. gallica, R. moschata, and R. centifolia, rose oil is prized for its therapeutic effects. It helps to get cool the mind, heal emotional hurts, and launch wound healing and skin condition.
- *Eucalyptus Oil:* Steam-distilled from various species of Eucalyptus leaves, eucalyptus oil is widely used in liniments, inhalants, cough syrups, ointments, and toothpaste. It possesses antimicrobial and respiratory benefits and is valued for its pharmaceutical applications.

Oral Care

- *Meswak (Salvadora persica):* For dental hygiene, meswak, which comes from the Arak tree, is used like a conventional toothbrush. It helps in cleansing teeth, preventing plaque buildup, and maintaining oral health.
- *Red Clover (Trifolium pratense):* Gum disease and irritation can be relieved with red clover mouthwash. It helps repair gum-related problems and has antimicrobial qualities.
- *Peppermint Oil:* Rich in menthol and other compounds, peppermint oil is used to relieve toothaches and gum inflammation. It can be given topically or utilized as a mouthwash for oral hygiene.

Applications of Herbal Products in Cosmetics

Lavender silk soaps, lotions, creams, body powder, herbal body powder, and skin care creams are examples of herbal skin care products.

- *Herbal Hair Care Cosmetics:* Henna, Amla, Shikakai, Brahmi, Bhringraj, Guar Gum.
- *Herbal Lip Care Cosmetics:* Lipsticks, Lip Gloss, Lip Balm, Lip Plumper.
- *Herbal Eye Care Cosmetics:* Eye Makeup, Eye Shadows, Eye Gloss, Liquid Eye Liners.
- *Creams:* Rich Face and Hand Cream, Aloe Moisturizing Hand Cream, and Herbal Moisturizers.
- *Herbal Oils:* Effective for Baldness, Hair Fall, Dandruff, Scalp Irritation, and Hair Maintenance.
- *Herbal Perfumes & Fragrances:* Citrus Fragrance, Chypre Fragrance, and other floral and woody scents [24–34].

LITERATURE REVIEW

1. Kumar *et. al.*, 2024 worked that in modern cosmetics, botanicals and natural extracts continue to play a significant role, echoing their historical use in formulations. Despite advancements in technology and the introduction of more invasive procedures, natural and botanical products retain their effectiveness in addressing aging skin concerns. Researchers are increasingly unraveling the biochemical mechanisms of action behind various natural products, which often align with their traditional applications for skin health. However, it's worth noting that many medicinal and pharmaceutical formulations incorporate synthetic compounds, which can lead to dermal toxicity. Spreading consumer campaign about personal lifestyle and safety has encouraged a value for cosmetics safe chemicals, releasing the cosmetics and individual care growth towards natural ingredients. There is vitality for the business of natural agents sourced from herbs and bees. Our objective is to provide a comprehensive and critical review highlighting the benefits of natural products for skin care, insights into women's purchasing behaviors, and updated information on the utilization of natural ingredients [35].
2. Vyavhare *et. al.*, (2023) discussed the historical utilization of herbs by humans for diverse purposes such as food, medicine, and beautification. They highlighted the etymology of the term "cosmetic," originating from the Greek word "kosmētikos," signifying the ability to adorn or have the power to adorn. The evolution of cosmetics has been intricately linked with human history,

with origins dating back to activities like hunting, combat, religious rituals, superstitions, and later, medicinal applications. Herbal cosmetics, referred to as herbal-based products, are formulated from approved cosmetic ingredients, incorporating one or more herbal ingredients to offer specific cosmetic benefits. These products leverage the aromatic properties of natural herbs and their preparations. The extra-want for natural substances have led to rising availability in the cosmeceutical market [36].

3. Pandey *et. al.*, (2024) did a study to form a polyherbal cosmetic cream with extracts from plants such as Glycyrrhiza glabra root, Piper betle leaves, and Azadirachta indica leaves, objective to evaluate their antimicrobial action for healing allergic skin symptoms. Stability evaluation and patch procedures were conducted to investigate the action of the formulations compared to a control base. Four different herbal cream formulations, labeled A, B, C, and D, were prepared, each containing varying concentrations of herbal extracts in combination. These preparations underwent evaluation under storage conditions (8°C and 40°C with relative humidity at 75%) on several parameters including pH, viscosity, acid value, peroxide value, total fatty matter, centrifugation, stability, and patch tests over a month. The well diffusion method was used to evaluate the formulations' antibacterial efficacy. Formulation D demonstrated the highest efficacy, while Formulation A showed superior performance compared to other preparations and the base. Spreadability, pH, appearance, viscosity, antibacterial potential, and the absence of phase separation were all beneficial attributes shared by Formulations A and D. Furthermore, no signs of redness, inflammation, or irritation were observed during the patch test, indicating the safety of these formulations for skin use. Formulation D, with minimal herb extract concentrations (0.1% each), exhibited optimal stability during storage, antimicrobial action, and less changes in the whole research compared to other formulations and the base [37].
4. Karpe *et. al.*, (2024) described the development and evaluation of herbal cold creams intended to enhance and beautify people's appearance. The evaluation used the water-in-oil procedure to prepare these cold creams, adding plant extracts along with liquid paraffin as a lubricant, beeswax as a stabilizer, and methylparaben as an antimicrobial agent to give health, texture and moisturization to the skin. Along with this, almond oil and neem oil were added in the development of the cold cream. These pharmaceutical creams serve various cosmetic functions such as moisturizing, cleansing, beautifying, and altering appearance. The semi-solid preparations are deemed safe for use by the general public and society. The aim of the work was to grow and evaluate herbal cold creams using plant extracts taken via the water-in-oil method, focusing to give nourishment and moisturization to the skin [38].
5. Mohammad Hassanbeiki *et. al.*, (2024) conducted research to develop a dietary and functional confectionary cream (DFCC) enriched with licorice powder and encapsulated Lactobacillus plantarum probiotic bacteria, responding to the growing interest in healthy foods. Licorice extract (LE) showed a total phenolic content of 1.97 mg/mL, mainly consisting of seven phenolic, flavonoid, and quercetin chemical substances along with gentisic acid, caffeic acid, p-coumaric acid, ferulic acid, luteolin, apigenin, and sinapic acid, all present at a concentration of 20 µg/mL. The incorporation of LE and malva mucilage (MM) reached to enhancements in the physicochemical characters (such as pH, overrun, syneresis, and texture) of DFCC. Moreover, the viability of encapsulated probiotics remained strong (in comparison to free probiotics) in the functional substance throughout a 60-day storage time range. Sensory investigation application revealed that strong concentrations of LE (15%) and MM (15%) were not well-taken by the panelists; however, samples with 10% LE, 10% MM, and microcapsules received favorable scores [39].
6. Akash Jayaprakash *et. al.*, (2023) described herbal cosmetics as products utilized to enhance an individual’s appearance. Their research is to create a herbal cream that can be used to cure, nourish, and moisturize different types of skin conditions. Because of their therapeutic properties, raw materials like Emblica officinalis (tulsi), Azadirachta indica (neem leaves), and Aloe barbadensis (aloe vera leaves) were used in the formulation of the cream. The cream conducted many types of study [40].

7. Davkhar *et. al.*, (2023) discussed herbal cosmetics as products employed to enhance one's appearance. Their research focused on developing a herbal cream that might be used to treat different types of skin diseases and to moisturize, nourish, and whiten skin. Primarily utilized for their medicinal properties, ingredients including Ocimum sanctum (tulsi leaves), Azadirachta indica (neem leaves), Carica papaya (papaya), Aloe barbadensis (aloe vera leaves), and Curcuma longa (turmeric powder) were used to manufacture the cream. Various evaluation parameters were applied to assess the cream [41].
8. Rajendra Gyawali *et. al.*, (2022) showed the increasing number of researches aiming on the cosmeceutical characteristics of medicinal plants found in different climatic areas. They showed the formulation of phenolic-high plant extracts into cosmetic cream substances to enhance their commercial value. Many of the herbs utilized in Nepal for cosmetic focuses are locally present in Ayurvedic herbs. The antioxidant actions of ethanolic extracts from Moringa oleifera L. leaves, collected from Rupandehi and Makawanpur districts, were evaluated using 2,2-diphenyl-1-picrylhydrazyl (DPPH) scavenging action. Total phenolic and tannin content were characterised using Folin-Ciocalteu reagent. The total phenolic content ranged from 35.51 to 42.89 mg/100 g gallic acid in the samples from Makawanpur and Rupandehi districts, respectively. The study proved slight variations in antioxidant actions between the two samples. Cream formulated using the Makawanpur plant sample exhibited favorable physicochemical parameters within acceptable ranges. These findings suggest the potential for developing commercial creams with antioxidant properties [42].
9. Afokoghene Avbunudiogba John *et. al.*, (2022) discussed the growing body of research focused on the cosmeceutical properties of medicinal plants thriving in diverse climatic zones. They emphasized that formulating cosmetic cream products with phenolic-rich plant extracts could enhance their commercial value. The authors mentioned that various of the herbs included in Nepal for cosmetic aim are locally sourced Ayurvedic herbs. The study evaluated the antioxidant properties of ethanolic extracts derived from Moringa oleifera L. leaves collected from the Rupandehi and Makawanpur districts using 2,2-diphenyl-1-picrylhydrazyl (DPPH) scavenging activity. The total phenolic and tannin content was evaluated using the Folin-Ciocalteu reagent test, analyzing total phenolic content contration from 35.51 to 42.89 mg/100g gallic acid in the Makawanpur and Rupandehi districts, respectively. The findings showed slight variations in antioxidant actions between the two samples. Creams formulated with extracts from the Makawanpur plants expressed suitable physicochemical characters falling within acceptable concentrations. These observations offer a compelling backbone for the further progress of marketed creams with antioxidant activities [43].
10. Chandani Kamble *et. al.*, (2021) discussed the longstanding demand for cosmetics dating back to ancient times. Lipstick preparations have been practiced for improving the beauty of lips, made of cosmetic products with pigments, oils, waxes, and emollients that give color and cover to the lips. The authors introduced the concept of herbal lipstick, incorporating coloring pigments from watermelon, and evaluated their organoleptic properties such as hardness and solubility. The aim of this study was to develop a herbal lipstick formulation with minimal or no side effects, thereby offering a safer alternative for women. By utilizing natural color extracts from watermelon (Citrullus lanatus), which is a natural source, adverse effects could potentially be reduced. This aligns with the extensive variety of lipstick shades available on the market, catering to the diverse preferences of women. The investigation focused on formulating herbal lipstick, recognizing its significance as a widely used cosmetic product among women. The authors emphasized the importance of their efforts in formulating a herbal lipstick to mitigate the undesirable effects commonly associated with synthetic preparations [44].
11. Ety Herawati *et. al.*, (2021) discussed the utilization of Secang (Caesalpinia sappan L), a member of the Caesalpiniaceae family, for its pigmentation properties. The orange to dark red coloration observed on the stem's skin is attributed to brazilin, a compound found in anthocyanins. Anthocyanins, being pigments, are considered suitable for use in lipstick formulations, offering a natural alternative to synthetic dyes commonly employed. The research aimed to formulate

lipstick dyes using extracts derived from the bark of Secang. The preparation of Secang bark extract involved maceration for 24 hours at room temperature using 70% ethanol solvent, resulting in a viscous yield of 75% extract obtained through a rotary evaporator. The lipstick preparation consisted of agents such as carnauba wax, cera alba, cetyl alcohol, vaseline, oleum ricini, lanolin, propylene glycol, butyl hydroxytoluene, nipagin, and coloring from Secang bark extract at strengthss of 14%, 22%, and 30%. Various tests were conducted, including power smear, homogeneity, melting point, pH, strength, and organoleptic tests. The formulated lipstick exhibited shades ranging from light red to dark red, which were easily applicable. The melting points of the lipstick were measured at 64.20°C, 61.90°C, and 60.60°C, while the pH values ranged from 5 to 6.4. Furthermore, the stability of colors, shapes, and odors was demonstrated to be consistent. The development of lipstick dyes using extracts from Secang bark offers a promising alternative to synthetic dyes, providing stability and color variation suitable for cosmetic applications [45].

12. Valarmathi S. *et. al.*, (2020) discussed the preparation of face creams using various herbs and evaluated their efficacy. The aim of the research was to develop face creams utilizing different herbs, and the formulated products were assessed for effectiveness. The herbs employed in the formulations (F1, F2, F3, F4, F5) included dried Aloe vera powder, dried Hibiscus flower powder, Senna auriculata dried powder, coriander dried powder, and a polyherb powder. These face creams underwent evaluation based on parameters such as organoleptic properties, pH, stability, consistency, homogeneity, and appearance. The study revealed satisfactory results for all formulations. Specifically, formulations F1, F2, F3, and F4, each containing a single herb, were compared with formulation F5, which included a polyherb combination [46].
13. Sachin Bhagwat Aglawe *et. al.*, (2019) outlined the main objective of their study, which was to create a polyherbal scrub incorporated into a gel. They discussed the use of natural ingredients to combat issues such as acne, wrinkles, and oil secretion, referring to these as natural or herbal cosmetics. Herbal cosmeceuticals, they explained, often contain plant parts with antimicrobial, antioxidant, and anti-aging properties. They emphasized the safety of herbal cosmetics, noting their lack of side effects, and highlighted cosmeceuticals' ability to influence the skin's biological function. In their preparation, they were green apple, cinnamon, millet, sandalwood, neem, turmeric, and honey as active agents adding into the gel, which was manufactured using different grades of carbopol. Additional ingredients such as propylene glycol, triethanolamine, methyl parahydroxybenzoate, and sodium lauryl sulfate were also added to the gel. The prepared gel underwent evaluation for various parameters including appearance, pH, viscosity, spreadability, washability, and irritability, with satisfactory results across all required characterizations. Consequently, the developed formulation was deemed effective as a scrub for promoting healthy and glowing skin [47].
14. Archana dhyani *et. al.,* (2019) emphasized the role of herbal cosmetics in enhancing individual appearance. They aimed to prepare a herbal cream for moisturizing, nourishing, and treating various skin conditions. The preparation was with different crude drugs such as Aloe barbadensis (Aloe Vera leaves), Azadirachta indica (Neem leaves), Curcuma longa (Turmeric rhizomes), and Emblica officinalis (Amla). These ingredients were selected based on their diverse medicinal properties. The cream underwent evaluation using various parameters to assess its efficacy and quality [48].
15. Chandrasekar R *et. al.*, (2018) discussed the traditional use of Neem and Tulsi for treating various skin conditions. They performed a study to add Neem leaves (Azadirachta indica) and Tulsi leaves (Ocimum sanctum) into a polyherbal cream. Neem and Tulsi leaves were collected from the Tirupati local area, shade dried, and then processed into coarse powder. The leaves were defatted and extracted using ethanol in a soxhlet apparatus, followed by evaporation to obtain the ethanol extracts. These extracts were then combined with various ingredients and excipients to formulate the polyherbal cream. The cream undertaken evaluation for parameters such as pH, viscosity, spreadability, centrifugation method, spectrophotometric method, accelerated stability investigation, and microbial stability. Accelerated stability investigation were conducted for 20

days at room and elevated temperatures in a stability chamber. The results showed that the cream was stable without phase separation, visible after centrifugation and stability investigations. Microbial stability testing showed no microbial growth, indicating the effectiveness of the formulated cream [49].

16. Vijayalakshmi a *et. al.*, (2018) aimed to prepare and formulate an herbal shampoo and assess its physicochemical functions, focusing on safety, efficacy, and the elimination of harmful synthetic ingredients by substituting them with safe natural ingredients. The shampoo was made using extracts from Hibiscus rosa-sinensis, Acacia concinna, Sapindus indica, Eclipta prostrata, Aloe barbadensis, and Cassia auriculata in different proportions. The evaluation included organoleptic, physicochemical, and performance tests such as visual assessment, wetting time test, pH determination, assurance of solid contents, surface tension measurement, detergency test, dirt dispersion test, conditioning performance evaluation, foam volume measurement, and stability assessment. The formulated shampoo exhibited clarity and good appeal. It displayed low surface tension, tiny bubble size, steady foam, efficient cleaning, and strong conditioning results. The physicochemical evaluation revealed satisfactory results, although further development was deemed necessary to enhance its quality, product performance, and safety [50].
17. T. Mangila *et. al.*, (2017) discussed the increasing demand for herbal formulations in the global market due to the reported antimicrobial, antioxidant, and anti-inflammatory activities of various plants. Their investigation aimed at preparing a cream based on the antioxidant power of herbal extracts and evaluating its actions. The formulation process involved the shade drying of green tea leaves followed by extraction using a Soxhlet extraction method. The cream was formulated with different concentrations of Neem oil, Jamul seed powder, and olive oil, denoted as F1, F2, F3, and F4. Stability investigation were done according to ICH procedure, and the cream was stable over a two-month period under fixed conditions. The evaluations of all formulations included parameters such as pH, spreadability, stability, etc. Formulations F3 and F4 showed desirable features such as good spreadability, consistency, homogeneity, and appearance, with no proof of phase separation and ease of isolation. Additionally, during irritancy studies, formulations F3 and F4 did not cause redness, edema, inflammation, or irritation to the skin. Based on these evaluation, the work suggests that the ingredients of extracts and the cream base in formulation F4 is more stable and non-harmful, efficiently generating synergistic actions. Overall, the herbal cream without side effects, possessing antioxidant properties, can serve as a protective barrier for the skin, helping to prevent skin aging [51].

MATERIALS AND METHOD

Materials

List of equipment and chemical/herbs are used shown in Table 1.

Table 1. Equipments and Chemicals/Herbs.

S.N.	Name of the Equipment	Grade	Name of the Chemicals/Herbs	Grade
1.	Beaker	Laboratory	Borax	Laboratory
2.	Digital pH meter	Laboratory	Catechu Extract	Laboratory
3.	Filter Paper	Laboratory	Citric Acid	Laboratory
4.	Funnel	Laboratory	Clove oil	Laboratory
5.	Glass Rod	Laboratory	Gelatin Solution	Laboratory
6.	Heating Mantle/Hot Plate	Laboratory	Liquid Paraffin	Laboratory
7.	Measuring Cylinder	Laboratory	Liquorice Extract	Laboratory
8.	Mortar and Pestle	Laboratory	Methyl Paraben	Laboratory
9.	Round Bottom Flask	Laboratory	Purified Water	Laboratory
10.	Specific Gravity Bottle	Laboratory	Sugar	Laboratory
11.	Water Bath	Laboratory	Tulsi Extract	Laboratory
12.	Weighing Balance	Laboratory	White Bees Wax	Laboratory

Method

Preparation of Liquorice Cold Cream

Borax was dissolved in hot water at a temperature of 70°C within a beaker. In a separate beaker, White Bees Wax was melted with liquid paraffin over a water bath also at 70°C. Subsequently, the Borax solution was carefully added to the molten wax at the same temperature, while ensuring continuous stirring. Formulation of Cold Cream with Liquorice extract are shown in Table 2 and Liquorice extract cream are shown in Figure 1. Following the preparation of a liquorice decoction in purified water at 70°C using a water bath, the decoction was filtered. Once cooled, the liquorice aqueous extract was transferred into a pestle and mortar where borax, white beeswax, and liquid paraffin had already been added to formulate a cold cream incorporating the liquorice extract. This process involved constant stirring of the mixture until it reached a cold temperature.

Table 2. Formulation of Cold Cream with Liquorice extract.

S.N.	Name of the Ingredients	Quantity (30g)	% of Quantity	Role of Ingredients
1.	White Bees Wax	20g	66.66%	Emulsifier, Consistency Enhancer, Moisture Protectants, Skin Conditioner, Stabiliser
2.	Liquid Paraffin	6g	20%	Moisturizer, Emollient, Stabilizer, Non-comedogenic, Skin Protectant
3.	Borax	1g	3.33%	Emulsifier, Thickening Agent, Preservative, Skin Soothening Agent
4.	Liquorice Extract	2g	6.66%	Skin brightening agent, Antioxidant Agent, Anti-inflammatory Agent, Moisturizing Agent, Calming Agent
5.	Water	19ml	63.33%	Hydrating Agent, Solvent, Continuous Phase, Vehicle for Active Ingredients, Viscosity and Spreadability adustifying Agent

Figure 1. Liquorice extract cream.

Preparation of Catechu Shampoo

Extract preparation

Preparation of Catechu Extract, Liquorice Extract, Tulsi Extract were done by decoction method where 10gm of Catechu (Acacia catechu (F. Leguminosae)), (Glycyrrhiza glabra (F. Fabaceae)), (Ocimum sanctum L. (F. Lamiaceae)), were boiled in 100ml of hot purified water. After boiling 100ml of extract was filtered and concentrated by solvent evaporation method for adding into formulation of shampoo. Formulation of Catechu Shampoo are shown in Table 3.

- *Gelatin Solution Preparation:* O.5gm of gelatin was weighed and boiled in 50ml of water. This 1% gelatin solution was added into the formulation.
- *Clove water Preparation:* 1ml of clove oil was added into 100ml of water. This 1% solution of clove water was added into formulation.

- *Sodium lauryl Sulfate Solution:* 2g of Sodium lauryl Sulfate was added into 5ml of water and this solution was added into formulation.
- *Citric acid and Methyl Paraben:* Quantity Sufficient of citric acid and methyl paraben were added into the formulation.

Table 3. Formulation of Catechu Shampoo.

S.N.	Name of the ingredients	Quantity	% of Quantity	Role of the ingredients
1	Sodium lauryl Sulfate	2g	4%	Cleansing Agent, Foaming Agent, Oil Removal Agent, Ingredient Solubilizer Agent
2	Catechin Extract	10ml	20%	Healthy Scalp, Healthy Hair Growth, Natural Color Enhancing Action, Antioxidant Action, Astringent Action.
3	Liquorice Extract	14ml	28%	Soothing Scalp, Strengthening of hair, Anti-Dandruff agent, Hair Shining Texture, Natural Ingredients.
4	Tulsi Extract	14ml	28%	Healthy Scalp, Hair Strengthening, Hair Growth Enhancer, Natural Cleansing Agent, Aromatherapy, Stress Relief.
5	Gelatin Solution	10ml	20%	Thickening Agent
6	Clove water	2ml	4%	Scalp Health,Hair Growth,Hair Conditioning,Hair Color Enhancement, Aromatherapy
7	Citric Acid	q.s.	q.s.	pH adjustment, chelating agent, preservative, conditioning agent
8	Methyl Paraben	q.s.	q.s.	Preservatives, product stability, consumer safety
9	Total	50ml	50ml	

Evaluation of Liquorice Cold Cream

Organoleptic Properties

- *Color:* Color was tested for 1g of Liquorice cold cream kept in a glass petridish against white background by naked eyes.
- *Odor:* Odor was tested for 1g of Liquorice cold cream after dissolving into 5ml of distilled water to take the smell of this solution.
- *Phase Separation:* Phase separation was tested by taking 1g of Liquorice cold cream in petridish for 24hours to check any phase separation in room temperature.
- *Smoothness:* 1g of Liquorice cold cream was applied over 1cm^2 area into the left hand dorsal surface. To check smoothness on application.
- *pH test:* 1g of Liquorice cold cream was added into 100ml of distilled water. pH was tested for this 1% Liquorice cold cream solution thrice using digital pH meter where pH electrode was immersed into the 1% Liquorice cold cream solution after calibrating pH meter at the pH of 7 using distilled water.1% Catechu shampoo solution and pH test by digital pH meter are shown in Figure 2.

Spreadability Test

About 1g of Liquorice cold cream was weighed and placed at the center of the plate and another glass plate was placed over it, then 100gm of weight was placed over the covering plate (time taken for the movement of upper slide over lower slide) to spread the cream for the particular time to record. So that the test substances between two slides was pressurized uniformly to get a thin layer.

Spreadability was calculated by following formula:
S= m.L/t
m= weight of the slide
L= length of moved on slide
t= time taken in second

Skin Irritation Test

About 2g of Liquorice cold cream was applied on the dorsal surface of the left hand and covered with a gauge for 4hours to test any bad odor and inflammation.

Evaluation of Catechu Shampoo

Organoleptic Properties

- *Color:* Color was tested for 10ml of catechu shampoo kept in a glass petridish against white background by naked eyes.
- *Odor:* Odor was tested for 1g of catechu shampoo after dissolving into 5ml of distilled water to take the smell of this solution.
- *pH test:* 1ml of catechu shampoo was added into 100ml of distilled water. pH was tested for this 1% catechu shampoo solution thrice using digital pH meter where pH electrode was immersed into the 1% catechu shampoo solution after calibrating pH meter at the pH of 7 using distilled water.

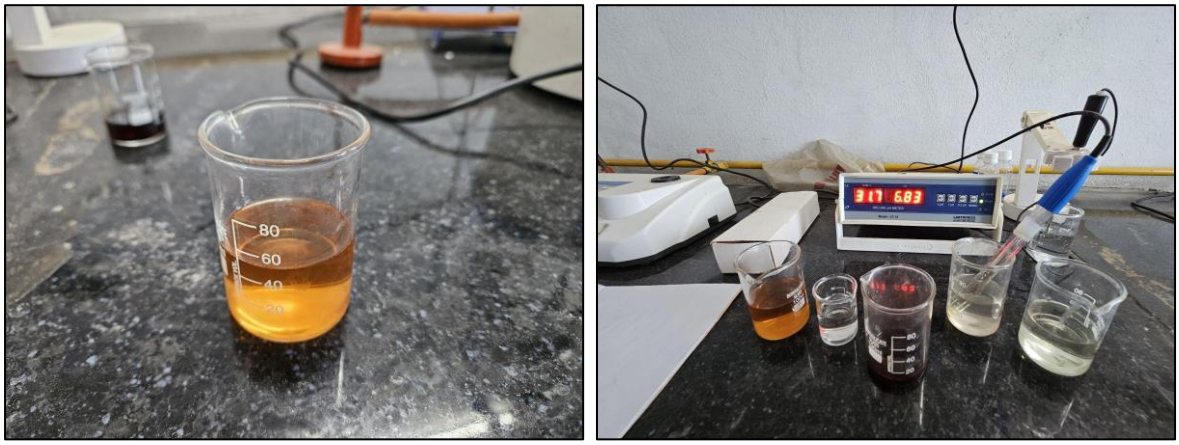

Figure 2. 1% Catechu shampoo solution and pH test by digital pH meter.

Test of % Solid Contents in Catechu Shampoo

To take 4gm of Catechu shampoo in petridish and it was weighed before evaporating solvent and water. This solution was heated at 70^0c to get rest of the solid substance from 4gm of shampoo solution. Then residue with petridish was weighed by subtracting weight of empty petridish to get the weight of solid content or residue. Then % of solid content was calculated by this mentioned formula.

% of Solid content= Weight of residue/ Weight of total taken shampoo*100

Dirt Dispersion Test

Two drops of catechu shampoo were added into the test tube and then 10ml of distilled water was added into this test tube. After that 1drop of ink was added into this mixture and the mixture was shaken for 10minutes. Color of foam was observed to check none/light/moderate/heavy.

RESULTS

Results of evaluation of Liquorice cold cream and Catechu shampoo were tabulated in Table 4 and Table 5.

Table 4. Evaluation of liquorice cold cream.

Serial Number	Name of the Parameter	Observation
1	Color	Creamy white
2	Odor	Odorless
3	Phase separation	No phase separation
4	Smoothness	Smooth
5	pH	8
6	Spreadability	ml/t=1g*20cm/10seconds=2 g-cm/second
7	Skin irritation Test	No bad odor and inflammation

Table 5. Evaluation of catechu shampoo.

Serial Number	Name of the Parameter	Observation
1	Color	Brown
2	Odor	Aromatic
3	pH	6.7
4	% of Solid Contents	14.5% (4g shampoo, residue=0.58g)
5	Dirt dispersion Test	light
6	Appearance	Translucent

DISCUSSION

Liquorice cold cream was optimized suitable by physical property and pH to apply on skin based on herbal ingredients added into formulation like liquorice extract that was used for skin brightening agent, antiinflammatory agent, antioxidant agent, moisturizing agent, calming agent etc.

Catechu shampoo was investigated for use in different purposes adding herbal ingredients (tulsi extract, liquorice extract, catechu extract, clove water) like coloring of hair, to relieve the stress of anxiety, catechin as natural coloring agent to make ammonia free hair dye, hair growth promoters, anti-dandruff action.

CONCLUSION

Future prospect of Liquorice cold cream and Catechu shampoo based on the application of herbal extract used into the formulation in market might be effective as valuable investigation in herbal cosmetic industry.

Acknowledgement

Herbal cosmetics were acknowledged for future use in modernization of herbal extracts in the cosmetic industry.

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