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FORMULATION & EVALUATION OF HERBAL CREAM CONTAINING CURCUMIN FROM CURCUMA LONGA

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Abstract:

Customers have always preferred herbal cosmetics because they are more strong, more widely accessible, and seen to have less adverse effects. The fastest-growing category of personal care items is herbal cosmetics. The personal care product category with the quickest rate of growth is called "cosmeceuticals." These are cosmetic preparations made with biologically active components derived from plants. The use of herbs in cosmetics has grown in popularity in recent years because of its perceived greater effectiveness, moderate action, and lower toxicity. The desire to seem attractive and beautiful created a sizable market for herbal cosmetics. The desire to appear younger than one's actual age, as well as to be lovely, youthful, attractive, and fair, has directly raised demand for herbal cosmetics and skincare products on the market. Therefore, the usage of cosmeceuticals and herbal cosmetics is overlooked in the review. It also talks about using botanicals as makeup. This might like to be used for skin care and beautifying purposes.

Key words: cosmetics made from herbs, skin, teeth, and hair

Introduction:

Herbal cosmetics A basis of numerous cosmetic materials is used to manufacture herbal cosmetics, which then contain one or more herbal compounds to treat a variety of skin conditions. Utilizing plants extensively in the creation of novel pharmaceutical goods applications in pharmaceuticals and cosmetics. The population of America is getting older and wealthier than it has ever been. High-end anti-aging products are in high demand due to the fact that many individuals are willing to sacrifice cash for youth. The skin care business has responded strongly to this trend. Cosmetics firms have tapped into the biomedical revolution by incorporating biologically active components into their products, beyond the limitations of traditional cosmetics that merely briefly embellish and enhance the skin. that improve the way healthy skin functions. These products have escaped pharmaceutical oversight and scrutiny since their goal is not to treat or cure skin conditions. As a result, "cosmeceuticals" conflate the terms medication and cosmetics, physician and aesthetician, and customer and patient. The beneficial medicinal properties of turmeric are combined in harmony with cooling, aromatic sandalwood oil to create Turmeric Skin Cream. For

millennia, Indian households have been using turmeric, a lovely and adaptable root. Its incredible qualities include enhancing the flavour of curries, from sanitizing wounds to preparing women.

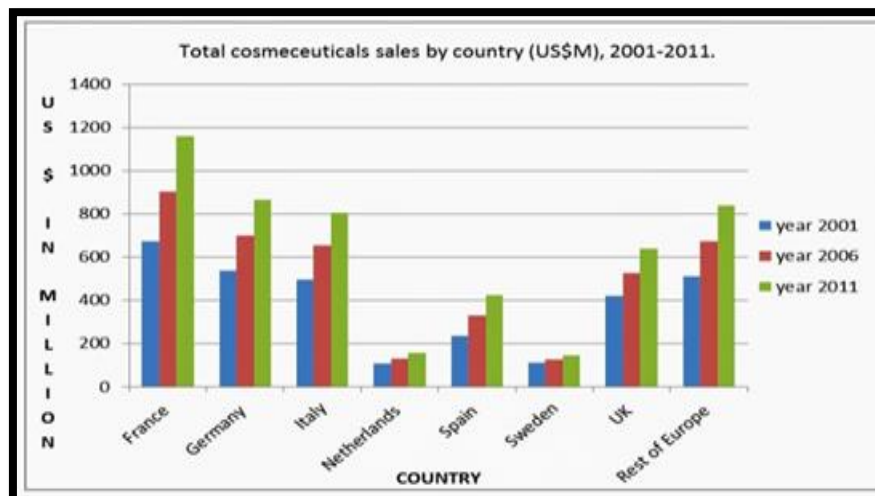


Fig: The graphical representation of sale in cosmeceutical

Cosmetics are the items that are typically used to both adorn and purify the skin. The word "cosmetics" comes from the Greek word "kosmesticos," which meaning "to adorn." Since then, the materials utilized to enhance or promote appearances have We refer to the skin as cosmetics. People have been employing herbal cosmetics for skin beauty since ancient times. The water in oil emulsion is called cold cream. Compared to other semisolid dosage forms or formulations, cold cream offers a longer contact duration at the application site. They make the skin appear elegant and less oily. The oil phase provides the skin with emollience.

Function of ingredients:

Curcuma is the primary ingredient in herbal skin cream formulations. An effective antiseptic is turmeric. Additionally, it helps to even out the colour and tone of the skin and increases skin elasticity. Acid stearic controls the cream's consistency. It is the primary component in the cream's recipe. Sorbitol is helpful in cosmetic products because it keeps the cream from drying out too much. It functions as a humectant. Propyl paraben inhibits bacterial and fungal degradation. It has a preservation function. Additionally, sodium hydroxide is a technical component that is used to change pH. as well as to balance substances. By its very nature, sandalwood essential oil reduces inflammation. It has a calming impact and reduces internal inflammation. It give the cream an aroma.



Fig: advantages of skin cream including turmeric

Our primary goal:

is to create a herbal cream that serves as a moisturizer, reduces acne and skin irritation, and treats dry skin, wrinkles, rashes, and other skin conditions. Cosmetics are items that are applied to the body. Cosmetics made with herbs are goods that are utilized to enhance one's appearance.

Purpose:

Human skin:

The primary goal of This Study was to extract curcumin from the *Curcuma longa* plant and create A Herbal cream that contains it in order to highlight how important it is to use natural ingredients rather than synthetic ones in pharmaceutical products. components. The fact that there are many lotions on the market today containing artificial chemical compounds that can cause allergies makes the significance of this study obvious. have negative consequences on the skin. Creams made with natural ingredients rarely have negative side effects. In particular, curcumin that has been separated from *Curcuma longa* has excellent skin-benefiting properties. Additionally, it was noted that curcumin possesses strong antioxidant, anti-inflammatory, and antimicrobial properties, which provides researchers with a means of using it to treat skin conditions. illnesses The skin, the outermost covering of the human body and the largest organ of the integumentary system.

Skin carries out the following tasks:

Protection: A physical defence mechanism between the internal and exterior environments that keeps infections and damage out; The skin's Langerhans cells are a component of the adaptive

defence mechanism: Lysozyme, which is found in sweat, breaks the connections that hold bacteria's cell walls together.

Sensation: is comprised of many nerve terminals that react in temperature, pressure, Touch, Vibration, and damage to tissue; refer to the somatosensory system and the hepatics for further details.

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Water resistance: To prevent vital nutrients from being washed out of the body, the skin functions as a barrier that is resistant to water.

Skin anatomy in humans:

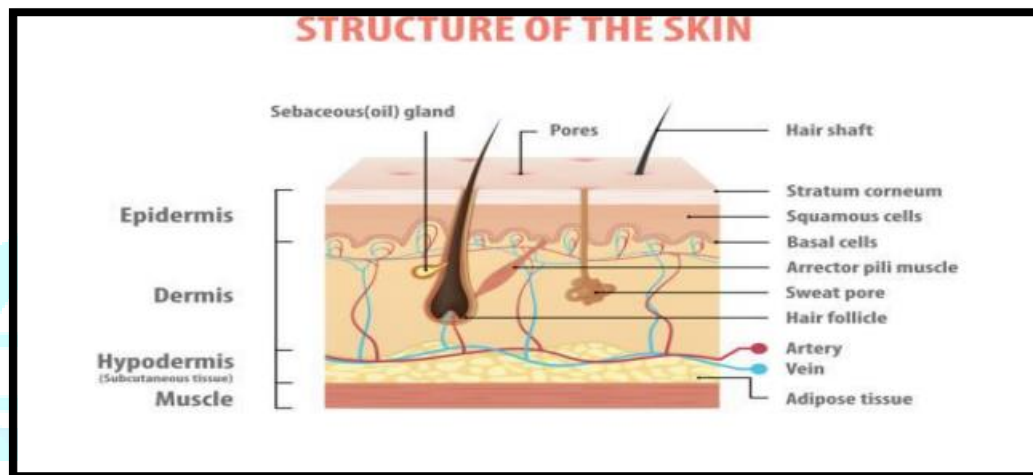


Fig: structure of skin

Skin Density

Each layer of skin has a different thickness. It is categorized by the according to the region of the body it covers. thickness of the dermal and epidermal layers. Skin without hair found on the palms the stratum lucidum, a further epidermal layer, is present on the hands and soles of the feet, where it is thickest. Based on dermal thickness, it is believed that the upper back is the thickest.; nevertheless, histologically, it is referred to be "thin skin" since the Compared to skin without hair, the epidermis is thinner does not have The layer of stratum lucidum.

Epidermis Layers

The the basale stratum, which is the innermost the stratum spinosum, stratum granulosum, stratum lucidum, and stratum corneum, the layer of the epidermis, come next. of skin that is the most superficial.

Stratum Basale:

often referred to termed the "stratum germinativum," lowest layer. Hemidesosomes bind the foundation membrane, which divides the stratum basale from the dermis. This layer includes columnar to cuboidal cells. stem cells with mitosis activity That Continuously produce keratinocytes. Melanocytes are also present in this stratum.

Stratum spinosum:

Also called the prickle cell layer, this layer consists of eight to ten cell layers that are irregularly polyhedral in shape and include cytoplasmic extensions, also called "spines," that extend outward and make desmosome-mediated contact with neighbouring cells. In this stratum, dendritic cells exist.

stratum granulosum:

3-5 cell layers of the are made up of diamond-shaped cells which possess keratohyalin and lamellar granules. Eventually, the progenitors of keratin present in granules of keratohyalin agglomerate, crosslink, and form bundles. Glycolipids found within the lamellar granules are secreted onto the cell surface, where they function as a kind of glue to keep the cells together.

Stratum lucidum:

eleidin, a result of keratohyalin transition, is a thin, translucent layer found in 2-3 cell layers of thicker skin on the palms and soles..

The uppermost stratum:

known as the stratum corneum, is composed of 20–30 cell layers of keratin and horny scales called anucleate squamous cells, which are composed of dead keratinocytes. This layer's thickness varies the most, especially in callused skin. Defensins, a constituent of our initial line of defence, are released by the dead keratinocytes in this layer. defence.

Epidermal cells: keratinocytes, melanocytes

- Merkel's cell
- Langerhans' cells
- Keratinocytes

Profile of the excipient:**Bee wax:**

One of the most crucial components of homemade cosmetics is beeswax. Why in the world haven't I published anything about beeswax yet? Perhaps beeswax is simply so obvious that I not given it a second consideration. But the most adaptable substance that works wonders for skin is beeswax. The actual beeswax is translucent and clear. Beeswax is chewed by worker bees, introducing propolis into the wax. The distinct yellow colour of beeswax is derived from the pollen that is transported by worker bees.

Borax:

Borax is a component of creams and lotions. Wax and borax are mixed to enhance the consistency of lotions and creams. When combined with wax, it also functions as an emulsifier, and it is mostly employed in soaps for hands. Due to its alkaline nature, it is a great ingredient for cleaning.

liquid paraffin:

Russian mineral oil, also referred to as Highly refined mineral oil known as liquid paraffin is utilised in medications and cosmetics. Liquid paraffin for cosmetics and medication should not be mixed. with the fuel utilized being paraffin (or kerosene).

Aloe vera

Aloe vera:

The aloe vera is a species of herbaceous plant in the Liliaceae family. It is a skin-healing, moisturizing, and softening component included in many cosmetics. All we need to do is slice off a leaf. Remove the calming gel from the aloe vera leaves. Aloe vera is a rich source of amino acids, including leucine and isoleucine, as well as vitamins A, C, E, B, choline, B12, and folic acid, which have cleaning properties and antioxidant properties.

Advantages:**Soothe sunburn:**

Aloe vera gel has anti-inflammatory and cooling qualities that help relieve sunburn. It aids in maintaining moisture retention and the skin's protective barrier. Aloe vera clears the pores and moisturizes the skin. makes the skin softer. It's also applied as a post-shave care regimen. enhances the healing of wounds.

Rose water:

Rose petals are distilled using steam to produce rose water. Because of its scent, rose water is occasionally used as a gentle natural fragrance in place of perfumes that are loaded with chemicals. Since ancient times, rose water has been utilized, even during the Middle Ages. It is believed to have started in modern-day Iran. It has long been a staple in food and drink items as well as cosmetics. It also has a host of possible health advantages, such as the following.



Fig: rose water

Distilled water:

water that has been cooked into vapour and subsequently reverted to a liquid state in an alternative container is referred to as distilled water.. contaminants in the initial Water that does not reach the boiling point or does not boil There is still a water point in the original container.

Honey:

Honey's antibacterial and anti-inflammatory properties are crucial in lowering the incidence of acne and outbreaks. These characteristics lessen the bacteria that results in blackheads, pimples, and whiteheads. They also aid in the treatment of breakout-related redness and irritation.

Almond Oil:

An excellent emollient overall, almond oil is the ideal skin care product to protect against the cold and revitalize the skin for a new season. It maintains the skin's moisture balance. Frequent massage controls blood circulation, which aids in the skin's natural absorption of vital nutrients.

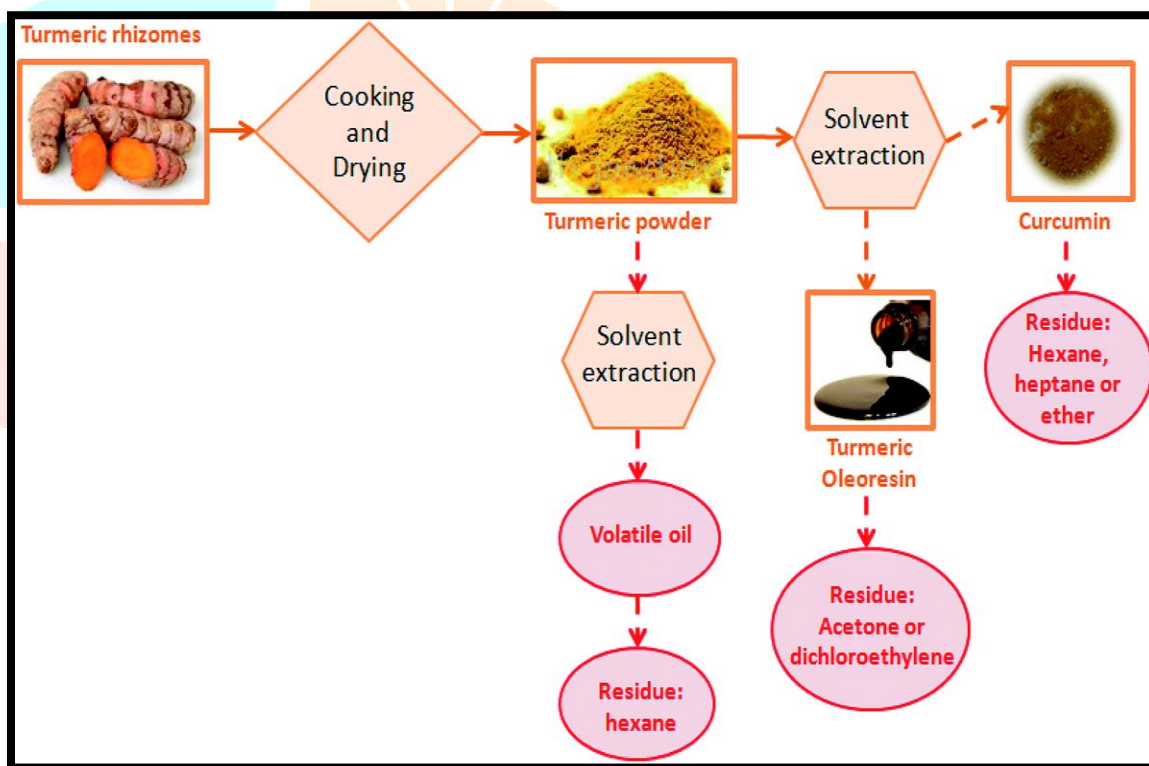
1) Preparation of curcumin extract:

Fig: preparation of curcumin extract

Formulation table :

S.N	Ingredients	Weight(gms)
1.	Beeswax	20gm
2.	Liquid paraffin	60gm
3.	Borax	1gm
4.	Turmeric powder	1gm
5.	Rose oil	0.2ml
6.	Distilled water	19ml
7.	Olive oil	1ml

Making the herbal cream:

The turmeric (*Curcuma longa*) rhizomes were gathered, washed, and sun-dried for two days. then pushed through an appropriate sieve plate after being crushed into a fine powder using a mortar. like sieve #60 to remove larger particles. For seven days, the gathered powder was macerated in an iodine flask containing 70% ethanol in order to extract the solute, or curcumin, that was present in the powdered turmeric. To obtain a clear liquid, Filter paper was used to filter the extract, and decolorized with charcoal.

Method:

On a hot plate, melt beeswax in a china dish. Liquid paraffin is added to this and cooked to 70°C on a hot plate. Next, borax was dissolved and boiled with olive oil in a 100ml beaker. oil at 70°C on a 4-hot plate. The temperature is the same for the aqueous and oily phases. Turmeric was added to the beaker along with 70°C. The borax solution is now added drop by drop while continuously stirring to the melted beeswax solution. A After passing the extract through filter paper, are added to this to offer some aroma. It was constantly agitated until it cooled and a semi-solid mass was produced.

Analysis:**An analysis of cold cream including aloe and turmeric:****Determining Physical Appearance:**

Visual inspection of the ice cream's physical appearance was conducted against a dark background. Three readings are averaged and recorded. The uniformity of the cold cream formulation was assessed both visually and tactilely. Following sensation Checks were made for The amount of residue, slipperiness, and emolliency remaining After a set amount of cream was applied. Kind of smear After applying cream, the type of smear or film that appeared on the skin was assessed. Removal: Using tap water to wash the area where the cream was applied, the cream's Removal simplicity was evaluated.

Sensitivity test:

The produced cream was applied to a hand's 1 cm of skin, and it was left in the sun for four to five minutes.

Spread ability:

The capacity to spread was measured in terms of the number of seconds it took for two slides separated by a cream layer under a specific load. Shorter time spent on The two slides' separation improves the capacity to spread. Standard-sized glass slides were taken in two sets. Next, a slide with the appropriate dimensions was selected, and the cream formulation was put on it.

PH:

A pH metre was used to measure the aloe cold cream's pH. A pH probe and metre, often known as a pH metre, is the most frequent and accurate way to measure pH in a laboratory setting. gauge. A little voltage is applied to a glass electrode that makes up the probe. Instead of showing volts, the voltmeter reads the electrical the glass electrode's impedance and the pH unit display. To take a measurement, immerse the semisolid probe up to the mete registers a reading.

Usage:

It prevents and treats skin infections, inflammation, blemishes, wounds, rashes, pimples, and more. It nourishes your skin from the inside out, leaving it healthier, flawless, and attractive. skin conditions include dermatitis, allergic eruptions, boils, and others.

FINAL SUMMARY:

Creating a herbal cream was the aim of this research. The moisturizing conditioning cream with curcumin was assessed in a number of physiochemical assays. and the outcomes were discovered using the standard value. Curcuma longa is the natural source of curcumin, a pigment with potential medical uses. One of the better options to synthetic cream is this herbal cream. To raise the overall calibre of the products, more thorough stability tests are required. The cream was prepared using sandalwood oil and curcuma longa extract. composition. In the Indian traditional medical system and in Ayurvedic preparations, turmeric is highly beneficial. The formulations' stability metrics showed no observable modification during the investigation's duration. The steadiness research demonstrated that the cream exhibited greater stability. Consequently, the current study found that it is possible to make an Ayurvedic skin cream with herbal extract and might potentially applied as a beautifying and Antibacterial.

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