IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

FORMULATION AND EVALUATION OF ANTI AGING JOJOBA OIL CREAM: A RESEARCH

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Abstract: The importance of youth and the perception of beauty has led to an increase in the creation of novel cosmeceuticals in recent years. According to the study, protein and cellular DNA damage contributes to skin ageing by causing a continuous degrading process. The main objective is tocreate a herbal anti-ageing cream using herbal ingredients such as jojoba oil, almond oil, beeswax, jasmine oil, rose water, liquid paraffin, methyl paraben, and borax. This water-in-oilemulsion-based lotion is made from natural ingredients. The combination of all the ingredientscan be regarded as a multifunctional cream, and further research on the cream's stability and skin irritancy can be done. Jojoba oil is used as an anti-ageing, anti-inflammatory, anti-wrinkle,antioxidant, anti-bacterial, and it moisturises the skin. The methyl paraben in cream is used asa preservative, which prevents the cream from decomposing. Almond oil is enriched in vitamin E. The evaluation tests are performed for things like spreadability, irritancy, pH, phase separation, and homogeneity.

Key words- Skin, jojoba oil, cream, jojoba wax

INTRODUCTION

Creams are topical products that can be applied directly to the skin. Creams are viscous liquidor semi-solid emulsions of the oil-in-water or water-in-oil type. dosage forms with a range in oil and water consistency[1].

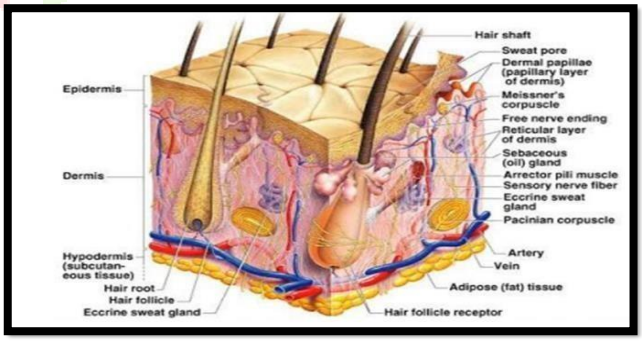


Figure no.1

The purpose of the Cream is used to soothe the skin, heal infections, remove tans and wrinklesand protect the skin from various environmental conditions[2]. There are many different kindsofcreams, including hand, body, cleansing, cold, foundation, vanishing, massage, and creams.The primary goal of our work is to create an herbal cream that can eliminate skin irritation and reduce wrinkles, and add radiance to the skin, among other effects[3]

The skin is the biggest organ in the human body. The average skin surface area for an adult human is 1.5 to 2.0 square metres. All areas of the body have different skin thicknesses, and men's skin is thicker than women's (1.26 mm vs. 1.3 mm). Epidermis, Dermis and Hypodermis are the three main layers of skin .The pH ranges from 4.5 to 6.

Epidermis: The epidermis is the skin's outermost layer. The epidermis does not contain blood vesselsand by diffusion from the dermis, the epidermis gets nourished. The main type of cell which makes up the epidermis are keratinocytes, melanocytes, langerhans cells and merkels cells. The epidermis has five sublayers or strata:

- Stratum corneum
- Stratum lucidum
- Stratum granulosum
- Stratum spinosum
- Stratum germinativum (also called “stratum basale”).

Dermis: The dermis is the skin layer below the epidermis; it is made up of epithelial tissue and protects the body from strain and stress. The base membrane is responsible for forming strong bond between epidermis and dermis . It contains hair follicles, sweat gland, sebaceous gland and apocrine.

Hypodermis: It is not the part of skin and lies below the dermis. It is made up of elastin, adipose tissue, and loose connective tissue. The cell types that hypodermis consists are fibroblasts, macrophages and adipocytes[4]
There are four types of skin that will be considered in this project, which is normal, oily, dry, and combination. The selection based on commonly discussed by the cosmetic expert[5]

Skin type	Characteristics	Suitable skin care
Normal skin	Has even tone, soft, smooth, no visible pores, no greasy patches or flaky areas. Has clear, fine, supple and smooth surface which is neither oily or dry.	Herbal- Pomegranate leaves juice, gingili oil. Essential oils- Chamomile, Lavender, lemon.
Dry skin	Low level of sebum and prone to sensitivity. Has parched look, feels tight. Chapping sign cracking of dehydrated and extremely dry skin.	Herbal- Calendula, Olive oil, Aloe vera. Essential oils- Fennel, Rose oil, Almond oil, Sandal wood, Avacado.
Oily skin	Shiny, thick and dull complexion. Coarse pores and pimples and other embarrassing blemishes. Prone to black heads.	Herbal- Rose buds, Oat straw, Thyme, Chamomile, Aloe vera, Lemon grass. Essential oils- Juniper, Lemon, Lavender, sage.
Combination skin	Some parts of your face are dry or flaky, while the centre part of face, nose, chin and forehead is oily	Herbals- Menthol, Turmeric, Sweet flag, Aloe vera. Essential oils- Citrous oil, Jasmine, Sandal wood oil.

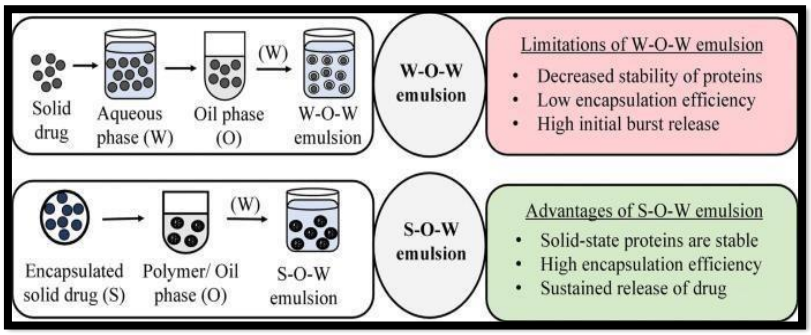
Table no. 1

Unmedicated and medicated creams are widely used to treat a variety of skin problems, or dermatoses. Creams are classified as pharmaceutical products since they are made using methods developed in the pharmaceutical sector.

On the basis of phases, creams can be classified as either an o/w or w/o type of emulsion. Theterm "cream" has historically been used to refer to semisolid products that are either water-in-oil (for example, cold cream) or oil-in-water (for example, disappearing cream)[6].

TYPES OF SKIN CREAMS

They fall into two categories: An oil-in-water (O/W) emulsion is one in which the oil is scattered as droplets throughout the aqueous phase[7]. Oil-in-Water (O/W): Creams that are formed of minute droplets of oil dispersed in a continuous phase Water-in-oil (W/O) creams are made up of tiny water droplets that are scattered throughout an ongoing oily phase[8] The water-in-oil (W/O) kind of emulsion occurs when water



is the dispersed phase and oil is the dispersion medium[9]

FIGURE NO . 2

Topical drug delievery :

These topical preparations are used to distribute drugs to specific areas of the skin or mucous membrane for localised effects. These items are made to be applied topically for more effectivesite-specific medication delivery into the skin[10].

Over the years, treating illnesses has involved administering medications to the body througha variety of routes, including oral, sublingual,rectal, parental, topical, inhalation, etc. With thegoal of containing the pharmacological effect of the drug on the surface of the skin or within the skin, topical delivery is the application of a drug-containing formulation to the skin to treata cutaneous disorder or the cutaneous manifestations of a general disease (such as psoriasis).

Semisolid formulations in all their diversity dominate the system for topical delivery, butfoams, sprays, medicated powders, solutions, and even medicated lotions can be used[11].

BENEFITS OF TOPICAL DRUG DELIVERY :[12]

- Avoidance of first pass metabolism.
- Convenient and easy to apply.
- Avoid of risk.
- The drawbacks of intravenous therapy and the various conditions of absorption, such as pH fluctuations, the presence of enzymes, the rate at which the stomach empties, etc.
- Achieving efficacy by continuously administering the medicine while using a lower total daily dosage.
- Prevent intra- and inter-patent fluctuations in medication levels.
- Since most medications do not dissolve well in lipids and have high molecular weights, they cannot be absorbed through the skin or mucous membranes.
- Very slow absorption.
- It can only be used for medications whose plasma concentrations must be extremely low to work.
- Only applicable to medications whose activity depends on very low plasma concentrationsPossibility of allergic reactions.
- Larger-particle drugs are more difficult to absorb via the skin.

SKIN AGING REASONS AND PREVENTION:

Most people would agree that caring for our skin properly is crucial because it isour largest organ and undoubtedly the most apparent[13].

An individual's skin care routine consists of a number of steps. There are many routines and procedures to follow, depending on the type of skin. This part will cover how to identify yourskin type, your skin care routine, and the chemicals you should avoid[14].

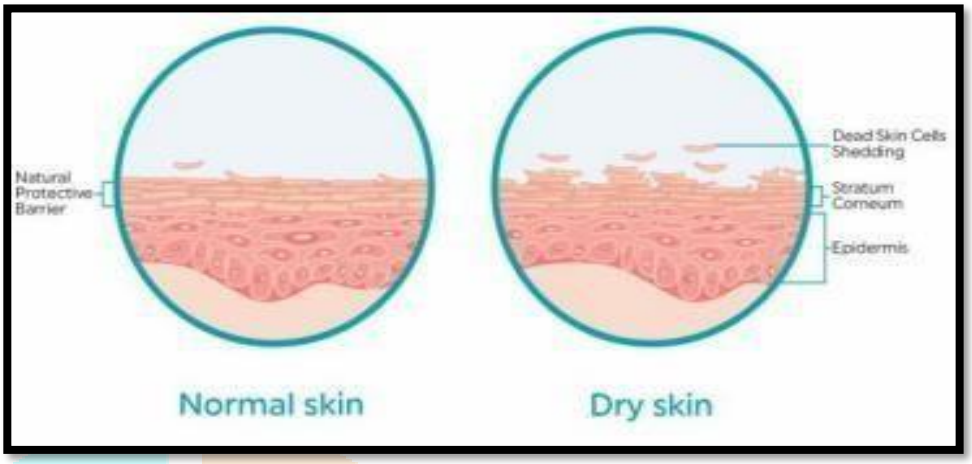


Figure no .3

The majority of researchers use the skin's response, condition, and symptoms to determineskin. However, other factors, such as the amount of sleep, the environment, and exercise, can alsoaffect skin type[15].

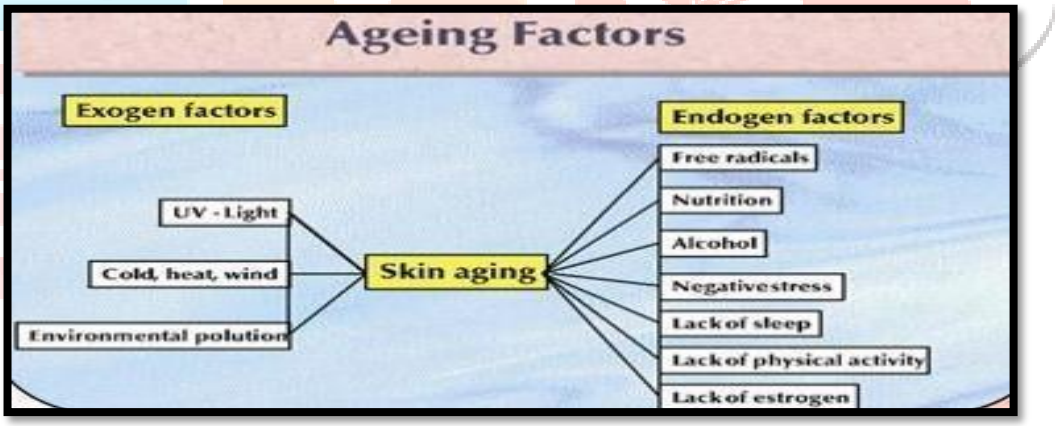


Figure no.4

Skin tightness, redness, rough skin, and itching are a few skin issues that might be taken into account if you have dry skin. The majority of skin care regimen websites concur that dry skinis characterised by irritation and rough skin. If the person does not take adequate care of theirskin, the ageing process may result in dry skin[16].

When a person has mixed skin, some areas of the body may be dry while other areas may feeloily. While the t-zone (nose, forehead, and chin) may be oily, the cheeks and the area surrounding the eyes may be dry. Both dry and oily skin types require different skin care routines. It is the most prevalent kind of skin[17].

Most creams do not penetrate into the epidermis; nevertheless, a common element in an excellent skin-care product can stimulate a reactive proliferation of the basal keratinocytes andbreak up dead stratum corneum cells[18].

This is made possible by the hydrolipidic film's lipid matrix, which inhibits excessive water and electrolyte loss, prevents antigenic substances from the environment from penetrating theepidermal and dermal layers, and makes it easier for antioxidants (like vitamin E) to reach theskin's surfacel19].

In fact, lipid matrix dysfunction contributes significantly to the ageing processes of the skin, which are characterised by dryness, wrinkles, age spots, and delayed healing[20].

Sebum secretion balance, amount of moisture, and the re-epithelialization to desquamation ratio all affect each person's skin type. Resurfacing involves "peeling" the top layer of skin, which might speed up the natural renewal process. In aged skin, the ratio may be impaired because re-epithelialization is delayed[21].

Herbal cosmetics are a major factor in preventing and slowing down skin ageing. Herbal cosmetics' ingredients have an effect on how the skin operates biologically and also give it thenutrition it needs to stay healthy. Natural goods and their derivatives are thought to make up more than 50% of all pharmaceuticals sold worldwide, making plant-based health cures an exciting alternative. The use of herbal anti-aging products has increased significantly in the personal care industry. The development of novel plant extracts and botanical ingredients basedon their traditional medical uses is a current trend in anti-aging skin care products, and it has resulted in the development of various cosmeceuticals that prevent wrinkles and shield the skinfrom any undesirable symptoms[11].

Selecting the optimal moisturizer depends on skin type, vehicle, and needs of the patient. In this study, we assessed the efficacy and safety of four skin care products for skin hydration, skin aging and sensitive skin[22]

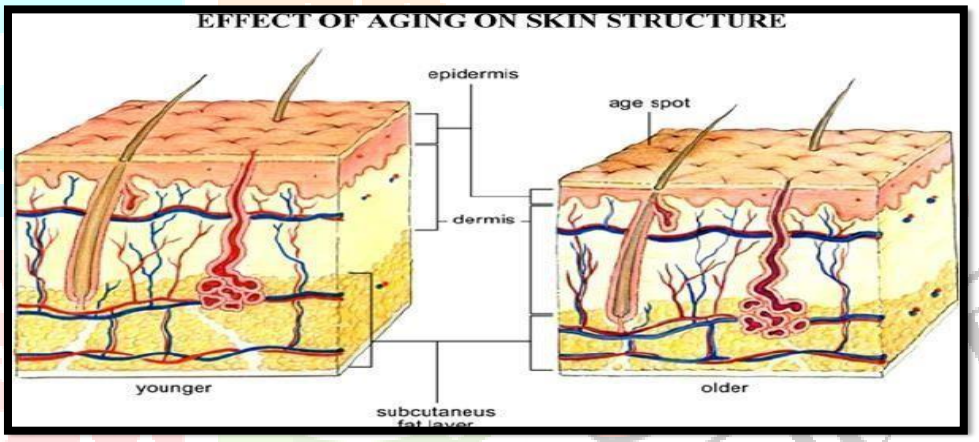


Figure no .5

In our preparation, we used three herbal ingredients: jojoba oil, jasmine oil, and almond oil. jojoba oil is used as an anti-ageing moisturiser. Antioxidant, antimicrobial, wound-healing, andthe treatment of fine lines and wrinkles are further uses for this medication[23]. Jasmine oil, almond oil, and jojoba oil are the three main active ingredients. Pure jojoba oil contains sterols,vitamins, waxes, and other nutrients that demonstrate its numerous additional benefits, including anti-ageing, moisturising, and wound healing[24]. Jasmine oil contains antiseptic and intifalmatory qualities[25], and almond oil is enhanced with vitamin E to give skin a bright appearance[26]. A fragrance made from rose oil is employed. We are attempting to create a creamthat is suitable for all types of skin and is effective[24].

PLANT PROFILE

1) Jojoba

Plant – *simmondsia chinensis*

Family –simmondsiaceae

Synonym – goat nut, dear nut, pig nut, wild hazel , box bush, coffee berry ,buck nut.

CHEMICAL CONSTITUENTS

Jojoba oil is composed of almost 98% pure waxes (mainly wax esters, few free fatty acids, alcohols, and hydrocarbons), sterols, and vitamins with few triglyceride esters, so it is widely known as liquid

wax rather than oil or fat[27].

Figure no . 7

Jojoba Wax

When the jojoba plant's various organs were examined for the presence of wax, it was discovered that the seeds make up the majority of the plant's wax content (around 50–52%)[28] [31]Jojoba wax is composed mainly of esters and, to a lesser extent, free acids, free alcohols, and hydrocarbons[29] [32]Esters are composed by the association of long straight-chainfatty acids with long straight-chain[30] or higher molecular weight monohydric alcohols,[31] C20 and C22; both the acids and alcohols are cis-monounsaturated at the (ω-9) position[32]. Small triglyceride esters are also present [33] . [33.34.35.36]

Wax Esters

Docosenyl eicosenoate "erucyl jojobenoate" (1), eicosenyl eicosenoate "jojobenyl jojobenoate" (2), and eicosenyl docosenoate "jojobenyl erucate" (3) are the primary components of the wax esters that have been isolated and previously recognized. docosenyl docosenoate (4), eicosenyl oleate(5), and docosenyl oleate (6)[34] Many other wax esters and free fatty alcohols and acids components are present in small quantities[34]

Free Fatty Acids and Alcohols

There are reportedly trace amounts of free fatty acids (0.96%) and free alcohols (1.11%) in natural oil[35].

Sterols

There are many reports concerning the sterol content of jojoba oil [33 Cholesterol (7), -Sitosterol (8), campesterol (9), stigmasterol (10), and other sterols make up the majority of the sterols fraction. (10), and isofucosterol (11)[33]

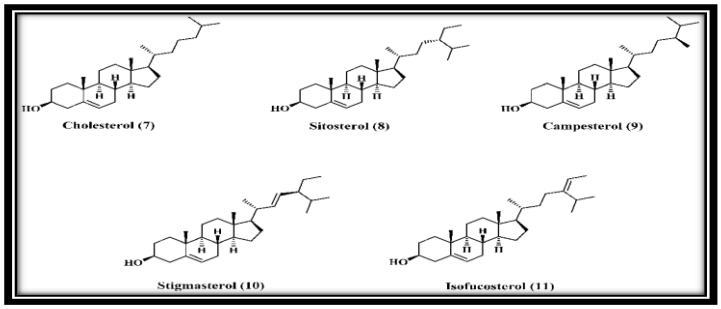


Figure no. 8

Fat-Soluble Vitamins

Vitamin D and its derivatives, in the oil, -tocopherol accounts for around 79% of the components, and tocopherol, which were isolated and quantitatively evaluated. Other fat-soluble vitamins such as vitamin A

are also found.

BIOLOGY OF JOJOBA

Figure no. 9

S. chinensis male, female, fruit, and seed morphological characteristics

Simple opposing, oblong-ovate, rounded at both ends, pale green or yellowish green, and leathery leaves. Depending on the amount of moisture and the amount of shade, the leaf appearsto live for two to three seasons. They have a unique tissue within that has a high concentrationof phenol chemicals, and they are 2.5 to 3.5 cm long and 0.5 to 1.5 cm wide[36].

Figure no. 10

S. chinensis shrubs (6 months)

Jojoba plants are leafy, xerophytic, woody, evergreen, dioecious, and tiny multi- stemmed. In the wild, they can reach heights of 0.5 to 1 m and occasionally reach 6 m. with taproots that can reach 12 m in length (Figure la, b). The average lifespan in nature appears to be greater than 100 years and may even reach 200 years[37].

Figure no .11

Mature plant

Mature plants' roots can extend 15-25 m below the soil's surface, and they have thick parallel laterals and secondary roots that enable them to draw moisture from the ground. As a result, the plants are able to thrive and flourish when the majority of other plants wither and decay [38]

Figure no. 12

Female flower

Flowers are unisexual, dioecious, and apetalous in nature. The breeze pollinates the blossoms.The female flowers are small, typically solitary in the axils or in clusters at the nodes, pale green with 5 greenish sepals, soft and hairy, and the male flowers are larger, yellow, and have10-12 stamens per

Figure no. 13Male plant

The canopy of male plants is said to be smaller than that of female plants. Plant actively growsand develops into a flower throughout the blooming season, where it has budding buds in the axils

Figure no.14 immature seed (f)

mature seeds

The acorn or peanut-shaped seeds have a flattened base and a tiny, pointy apex. The seed is 1-2.5 cm long, smooth, and dark brown to black in colour. One hundred seeds can weigh somewhere between 40 and 80 grammes, and occasionally much more, but they tend to weighthe same when they come from wild plants in a particular area.

USES:

The use of jojoba oil as a component in cosmetics affect:

- Skin suppleness and the lack of deep lines and wrinkles.
- It causes the skin to become more elastic and smooth.
- It can be used even for very sensitive skin because it does not clog pores.
- It is also hypoallergenic and well absorbed through the skin.
- The chemical make-up of jojoba oil is comparable to that of the sebum secreted by human skin. Jojoba oil perfectly compensates for the deficits caused by the insufficient sebum production of dry skin.in the case of excessive secretion of sebum (greasy skin) jojoba oil inhibitsits production. Using the wax as a component of creams,cosmetics manufacturers receive products leaving no greasy film on the skin[39].

PURPOSE FOR CHOOSING JOJOBA OIL

- Jojoba oil is a liquid wax, gold-yellow in color, without odor.
- It may be heated up to 300° C before it solidifies at temperatures below 8° C. It is resistant to oxidation.
- It consists of squalene, vitamins (A, E, F), saturated and unsaturated alcohols, fatty acidsand their esters, phytosterols[40]

2) ALMOND OIL:[41]

Plant : *prunus Amygdalus dulcis*

Family-:Rosaceae

Synonyms: Sweet almond oil , Dulcis oil.

Figure no . 15

Chemical Constituents

Saponification of almond oil using saturated KOH-methanol was done after almond oil was extracted. The mixed fatty acids methylated by methanol-H2SO4(4:1, V/V). Methyl esters were extracted byether and detected by gas chromatography. Taiyuan almond oil was discovered to include mostly oleic acid (C18:1), 25% linoleic acid (C18:2), 4.6%–4.8% palmitic acid (C16:0), and a trace amount of palmitoleic acid (C16:1) and stearic acid (C18:0).[42] .

Oleic acid: A monounsaturated fatty acid, that contains around 64% to 82%. Oleic acid is easily absorbed by the tissues of the skin because it shares a chemical structure with your own natural sebum.
Linoleic acid: is a polyunsaturated fatty acid with remarkable anti-inflammatory qualities that can relax and soothe sensitive, irritated skin. Its ranges from 8 to 28%.
Palmitic acid: Palmitic acid enhances skin barrier effect, and protects from bacteria and allergens.
Stearic acid: stearic acid acts as a cleanser as well as an emollient (helps retain moisturein the skin).

USES

- Because of its nourishing, restructuring, and penetrating qualities, almond oil is employed in the cosmetics sector.
- Beta-zoosterol, squalene, and alpha-tocopherol are all abundant in almond oil and are essential components of beautiful skin.
- This is due to almond oil's potent emollient qualities, which support the maintenance of a balance between moisture absorption and water loss.[26.]

PURPOSE FOR CHOOSING ALMOND OIL:

- Almond oil has been used for centuries to soothe the skin and treat minor wounds andcuts and treat skin conditions like eczema and psoriasis.
- In addition to treating dry skin, almond oil helps improve skin tone and appearance. This is because almond oil has strong emollient properties that help in maintaining a balance between water loss and moisture absorption
- Almond oil can be used to treat acne since it has antibacterial characteristics and is high in vitamin A..
- Because of its high vitamin E content, it can also aid in fading scars, healing sun damage, and slowing the effects of aging.

3) JASMINE OIL

Plant – *Jasminum grandiflorum*

Family – Oleaceae

Synonym- Jasmin oil, jasminum grandiflorum l. oil, Jasmine essential oil

Figure no . 16

CHEMICAL CONSTITUENTS :

The principal chemical elements of jasmine oil include benzoyl acetate, linalool, benzoyl alcohol, indole, benzoyl benzoate, cis-jasmone, geraniol, and methyl anthranilate[43]

Benzyl acetate:

Widely known for its value across the flavours and fragrances and cosmetic sectors, Benzyl Acetate is also commonly used in industrial applications. The liquid is clear, greasy, and colorless. It has a strong, floral scent that is reminiscent of jasmine.

Linalool :

Terpene alcohols, a class of aromatic hydrocarbons, including linalool. Linalool helps give skin care products a pleasant, fresh scent when coupled with other scents and essential oils.

Indole*:*

Indole is a solid at room temperature. It is a component of many perfumes and has a floral scent at extremely low concentrations. It also occurs in coal tar.

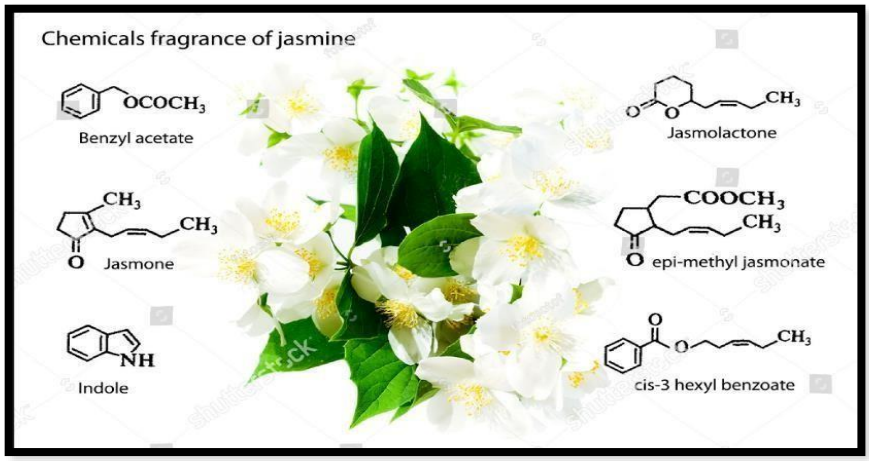


Figure no. 17

USES OF JASMINE ESSENTIAL OIL

Diminishes Wrinkles

Jasmine essential oil offers several benefits for slowing down the aging process of the skin due to its high concentration of bioactive compounds. With its organic aldehydes and esters, this tincture considerably reduces the visibility of wrinkles and fine lines while also enhancing the synthesis of collagen to refresh skin texture and show a smooth, youthful complexion.

Moisturises Skin

Jasmine essential oil is a superb emollient because of its thin, gel-like consistency. Given that it comprises a wide range of plant-based oils and lipids, this aromatic potion treats dry skin like a pro by regenerating patches of rough, flaky, peeling tissues. Jasmine essential oil has proven to be a dependable and effective remedy for treating damaged skin brought on by inflammatory conditions including psoriasis, eczema, and rosacea.

Heals Acne Scars

Jasmine essential oil has potent antibacterial and cicatrizing, or wound healing, qualities because it is rich in naturally occurring benzoic acid and phthalic acid derivatives. Therefore, it is a remarkable treatment for treating enlarged red scars, swelling bumps, and dented pits that develop during acne flare-ups. Sensitive skin is soothed when 2–3 drops of jasmine essential oil are added to a mild cleanser and used frequently.

PURPOSE FOR CHOOSING JASMINE OIL

- By using steam distillation techniques, jasmine essential oil is extracted from the Jasminum officinale plant's blooms.
- This oily extract has a golden yellow to light brown color and a slightly viscous texture.
- Jasmine essential oil is prized for its exquisite aroma, which combines tones of warm, strong, and sweet with some very exotic aromas.

Furthermore, it is packed with potent plant-based compounds such as esters, thiols, organic acids and phenolic components which hold strong antioxidant, anti- inflammatory, antimicrobial, antiseptic and cleansing properties[44].

Plan of Work

STEP: **I**

To formulation and evaluation of herbal cream using jojoba oil.

STEP: **II**

Collection of plant material from various medical stores

STEP**: III**

Plan and procedure of formulation

STEP: **IV**

Add all the ingredients according to procedure

STEP: **V**

Preparation of cream

STEP: **VI**

Herbal cream is evaluated

STEP: **VII**

Result was noted and concluded

MATERIAL & METHODS

Sr. no.	Ingredients
1	Jojoba oil
2	Almond oil
3	Jasmine oil
4	Borax
5	Bees wax
6	Propyl paraben
7	Liquid paraffin
8	Rose water

TABLE NO .2

Collection of Plant materials:

All the herbal ingredients like -

Jojoba oil (*simmondsia chinensis*), almond oil *(prunus Amygdalus dulcis*), jasmine oil (*Jasminum grandiflor)*are purchased from Temple Bazar Rd, beside HDFC near hotel sankriti,behind Apna Bandar, Sitabuldi, Nagpur. Other exipients were collected from college laboratory.

Figure no. 18

FORMULA:

Sr.no	ingredients	Quantity for sample 1	Quantity for sample 2
1	Jojoba oil	1.5ml	1.5ml
2	Almond oil	1ml	1ml
3	Jasmine oil	1ml	0.5ml
4	Bees wax	1.5g	1.5g
5	Liquid paraffin	4.5ml	4.5ml
6	Borax	0.1g	0.1g
7	Propyl paraben	0.01g	0.01g
8	Rose water	q.s	q.s
9	Distilled water	q.s	q.s

Table no. 3

q.s = quantity sufficient ml = mililitre
g = gram

FORMULATION :

In borosilicate glass beaker li quid paraffin and bees wax and heated together at temperature75°C. (oil phase)

In another beaker dissolve borax and methyl paraben in distilled water and heat attemperature 75°C. (aqueous phase)

Add slowly aqueous phase in oily phase.

Stir it vigorously until it forms cream.

Then add few drops of rose oil.

Once this cream is on the slab, a few drops of distilled water should be added.

The addition of water will be made if necessary.

N The cream is then combined geometrically on the slab to create a smooth

texture.

Mix all the ingredients properly.

The preparation of the cream is done

Heat liquid paraffin and bees wax in a borosilicate glass beaker at 75°C and maintain that hating temperature (oil phase). Borax, methyl paraben, and distilled water should be dissolved in a separate beaker and heated to create a transparent solution (aqueous phase)[45]. The slowly add this aqueous phase to heated oily phase[46]. Then add few drops of rose oil as fragrance. Put this cream on the slab and add few drop of distilled water if necessary and mix the cream in a geometricmanner on the slab to give a smooth texture to the cream and to mix all the ingredient properly this method is called as slab technique method of preparation of cream[47].

Figure no. 19
Sample 1

Figure no. 20
Sample 2

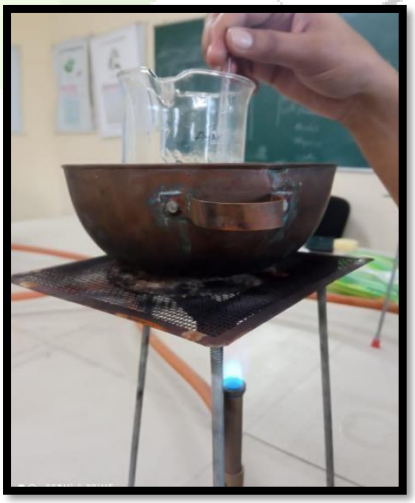


Figure no. 21

Evaluation

PHYSICAL EVALUATION [48] In these test the cream was observed for the colour, odour, texture, state

IRRITANCY[2] Make the area (1 cm^2) on the left hand dorsal surface. Then the cream was applied to the area andthe time was noted. Then it is checked for irritancy, erythema and edema if any for an interval up to 24hour and reported.

WASHABILITY[49] Apply little amount of cream on hand and wash with tap water

PHASE SEPARATION: Prepared cream was kept in the closed container at temperature 25-1000 C away from light. Then phaseseparation was checked for 24 hours for 30 days. No any change observed in cream that is no phase separation.

HOMOGENEITY[50] The formulation were tested for the homogeneity by visual appearance and bytouch. The formulation produce uniform distribution of extract in cream. This was confirmed by visualappearance and by touch

GREASINESS [52] This test is performed to determine the greasiness and oiliness in the cream.

PH OF CREAM[51]The cream's ph should be between 4.6 to 5.8 to prevent skin irritation.

VISCOSITY: The Brookfeild viscometer is used to determine the viscosity of cream at room tempereature.

RESULT AND CONCLUSION

RESULT:

The herbal anti-ageing face cream was prepared by using w/o emulsion method using herbal ingredients like jojoba oil, jasmine oil and almond oil and developed formulation and passing all the evaluation parameter like physical evaluation, irritancy, wash ability, homogeneity, phase separation of the prep ared herbal cream by using jojoba oil.

TABLE NO .4

Sr .no	Evaluation parametrs	Observation sample 1	Observation sample 2
1	Color	Off white	Off white
	Odour	pleasant	Pleasant
	Texture	Smooth	Smooth
	State	Semisolid	Semisolid
2	irritancy	Not irritant	Not irritant
3	washability	Easily washable	Easily washable
4	Phase separation	No phase separation	No phase separation
5	Homogeneity	Homogenous	Homogenous

Conclusion:

The global market for herbal cosmetics is seeing a rise in demand, and these priceless creationsof nature are becoming more and more popular nowadays. These herbal compounds demonstrated a strong anti-ageing effect, and the formulations were stable at room temperatureand could be applied to the skin without risk. These creams are simple to wash and non- irritating. Given that the cream is made from natural ingredients, it should be less likely to cause side effects than commercially available synthetic cream. The cream spreads easily and has its desired effect. There is no remaining cream residue, and it is less oily. Cream smells better thanks to the rose oil. The texture is quite smooth, and it also works as a moisturiser and enhances the radiance.

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