"Formulation and Evaluation of Herbal Facepack"

Sampada Kishor Khedkar , Anant Anil Pardeshi, Sonali Laxman Tupe

Institute Name : Nandkumar Shinde College Of Pharmacy, Vaijapur.

Guided by : Farooq A.H. Sheikh

M.Pharm [Pharmaceutics]

ABSTRACT

Everybody aspires to be have beautiful skin that is fair. Acne, black heads, and pimples are becoming fairly frequent among those who have it. According to Ayurveda, blood impurity is typically the cause of skin issues. Herbal face packs serve to retain the skin's elasticity while also stimulate blood flow, revitalise muscles, and clear out clogged skin pores. Herbal cosmetics have the advantage of being non-toxic, reducing allergic reactions, and using components that have been proven effective through time. As a result, an effort is being made in the current work to formulate an optimal facial pack appropriate for all types of skin.

Keywords : *Herbal face pack, Bael, Ritha, Nutmeg, Evaluation*

Introducation:-

People have been utilizing plants for healthy, radiant, and beautiful skin since the start of time. Cosmetics are goods that are used to maintain aesthetic appeal and to make one look beautiful. Cosmetics are readily available items intended to enhance one's look by activities including such washing, beautifying, and enhancing attractiveness. Herbs have been utilised for cleansing, beautifying, and managing people and things since ancient times. The largest portion of the body that reveals someone's health is their face skin[2]. Ancient ladies were extremely concerned with their appearance and taken special care of her unique skin types. Even today, many people, especially in rural and hilly areas, prefer natural therapies such organic extracts for a variety of cosmetic products. Everybody wants to be have nice skin that is fair. Acne, black heads, pimples, and dark circles are now frequent among young people and those who have it. According to Ayurveda, blood impurit The herbal paste used as a facial treatment in Ayurveda is known as "mukha lepa." This herbal paste is applied to the face to cure pigmentation, scars, markings, and acne. Natural face packs are more affordable and offer no negative effects in the quest for naturally pale skin. [4] The products that are utilised to sanitise and enhance the skin are known as herbal cosmetics. The primary benefit of utilising natural cosmetics is that they are natural and have no negative effects on the body. [5]ies are typically the cause of skin issues [3].

Facial mask is the silky powder that is applied to the face. These treatments are applied to the face as pastes or liquids and then left to dry and harden into a film, which has the effect of tightening, nourishing, and cleaning the skin. They are typically kept on the skin from ten to fifteen minutes so that all the water can evaporate. As a result, the ensuing film contracts and hardens, making it simple to remove. While a colloidal and adsorbed clays employed in these treatments remove grease and oil from the skin on the face, the warming and tightening impact created by application of a face pack creates the stimulating sense of a revitalised face. Skin impurities and previously deposited dirt are also eliminated when the placed face pack is subsequently removed.

3.HERBAL INGREDIENTS PROFILE:

1.] Cinnamon

Botanical name: - Cinnamomum verum

Family: - Lauraceae

Genus: - Cinnamomum

It is a spice made from the root bark of various tree species belonging to the genus Cinnamomum. Cinnamon is mostly used as a pungent condiment and flavouring component in a wide range of cuisines, sweet or savory meals, cereal bars, unhealthy snacks, teas, and traditional dishes. [7] The essential oil and main component of cinnamon, cinnamaldehyde, along with a number of other ingredients, such as eugenol, are what give it its distinctive scent and flavour. The commercial spice goods that some tree species generate are known as cinnamon. All belong to the family Lauraceae and the genus Cinnamomum. Just a few Cinnamomum plants are raised commercially for spices. Although Cinnamomum verum is occasionally referred to as "genuine cinnamon," the majority of cinnamon traded internationally is is derived from Cinnamomum cassia, a similar shrub also called as "cassia." 70% of the cinnamon consumed worldwide in 2018 was produced in China and Indonesia, with China producing 30% and Indonesia generating roughly 40%. [23].

History:-

Since ancient times, people have known about cinnamon. [7] Although it was brought to Egyptians so early as 2000 BC, people who claimed that it originated in China mistook it for Cinnamomum cassia, a very related species. [8] Cinnamon has been so highly valued in ancient cultures that it was thought to be a gift befitting of kings or even gods; a beautiful inscription attests to the donation of cinnamon with cassia to the Apollo temple in Miletus. In order to maintain their monopoly as suppliers, those in the spice trade in the Mediterranean region for centuries kept its source a trade secret.

India, Sri Lanka, Bangladesh, and Myanmar are the native countries of Cinnamomum verum, which is known as "genuine cinnamon" in Latin. China is the original home of cassia, or cinnamonomum. [8] Native to Southeast Asian nations with warm temperatures, including Vietnam ("Saigon cinnamon"), Indonesia, and others, related species are all collected and sold as cinnamon in the contemporary age. Cinnamon was utilized to embalm mummies in ancient Egypt. Cinnamon and cassia were employed in Ancient Egyptian recipes in kyphi, an aromatic used in burning, starting in the Ptolemaic Kingdom. Hellenistic kings occasionally presented cassia and cinnamon as gifts to temples.

The term "kasa" is first encountered in Greek in a poem written with Sappho in the seventh century BC. Herodotus claimed that winged serpents protected the cinnamon, cassia, incense, myrrh, and labdanum crops in Arabia. [7] Arabia was cited as the origin of cinnamon by Herodotus, Aristotle, and other writers. According to their accounts, enormous "cinnamon birds" collected cinnamon sticks from an unidentified country where cinnamon trees thrived and used them to build their nests. [9].

Active Constituents:-

In addition to Cinnamaldehyde, Cinnamate, Cinnamic Acid, and many Essential Oils, cinnamon is made up of a range of resinous chemicals. Because cinnamonaldehyde is present, the flavour and aroma are spicy, and they develop as a result of oxygen absorption. As cinnamon ages, the colour darkens, enhancing the resinous components. different physiochemical characteristics of cinnamon. Numerous essential oils, including Transcinnamaldehyde, Cinnamyl acetate, Eugenol, L-Borneol, Caryophyllene oxide, -Caryophyllene, E-Nerolidol, -Cubebene, - Terpineol, Terpinolene, and -Thujene, have been found to be present[9].

Uses:-

1.]Cinnamon has antibacterial qualities and is effective in curing acne.

2.]Due to its potent antioxidant properties, cinnamon helps to delay the onset of ageing.

3.]It can give skin a plumper, more even tone.

4.]Cinnamon contains anti-inflammatory effects.[8]

2.]Orange peel:-

Botanical name: - Citrus sinesis (sweet orange Citrus aurantium (bitter orange)

Family: - Rutaceae

Genus: - Citrus

The term "orange" refers to the fruit of many citrus species belonging to the family Rutaceae; it most often refers to Citrus sinensis, commonly known as the "sweet orange," to distinguish from the closely related Citrus aurantium, often known as the "bitter orange." Sweet oranges reproduce asexual and sexual (apomixis by nucellar embryony); different types develop as a result of mutations. The fruit (Citrus maxima) and the

mandarin (Citrus reticulata) are the parents of the orange. The maternal line is that of the pomelo, according to the chloroplast genome. [7] The entire genome of a sweet orange has just been sequenced [2]. In a region that includes Southern China, Northeast India, and Myanmar, the orange first appeared. and the delicious orange was first mentioned in writing in China in 314 BC. Orange trees were discovered to be the most widely planted fruits tree in the world as of 1987. Due to its sweet fruit, orange trees are commonly planted throughout tropical and subtropical areas. Orange tree fruit can be consumed fresh or processed to get the juice or aromatic peel. Sweet orange output made for around 70% of all citrus as of 2012.

Active Constituents:-

Monoterpene (91%) and Limonene (90%), as well as Citral (4%), Vitamin C, Pectin, Hesperidine, Aurantimarin Aurantimaric acid, Octanal (39%), Decanal (42%), and at least 2.5% Volatile Oil. [9]

Uses:-

1. Prevents free radical damage to the skin.
2. Treats irritated, flaky, and dry skin.
3. Rehydrates skin that needs it.
4. Restores moisture.
5. Protects skin cells from oxidative stress for youthful, radiant skin.
6. Aids in regenerating tattered cells.
7. Has skin-lightening properties.
8. Takes tan off.
9. Packed with anti-aging qualities[10]

3.] Neem:

Botanical name: - Azadirachta indica

Family: - Meliaceae

Genus: - Azadirachta

A tree in the mahogany group Meliaceae is known as Azadirachta indica, also known as neem, nimtree, or Indian lilac[3]. It is a species of the genus Azadirachta, one of just two species, and is indigenous to much of Africa and the Indian subcontinent. Typically, tropical and semi-tropical climates are where it is grown. In islands in southern Iran, neem trees are also present. Neem oil is made from its fruits and seeds. [22].

Active Constituents:-

Numerous biologically active substances, such as triterpenoids, alkaloids, phenols, flavonoids, carotenoids, ketone bodies, and steroids, were present in the neem tree's chemical contents that were extracted from its various portions. The substance with the highest biological activity is azadirachtin. This substance is a member of the class of compounds known as tetranortriterpenes called C-seco Limonoids. In reality, it is a blend of seven isomeric substances known as Meliacin, Azadirachtin, Gedunin, Nimbidin, Nimbolides, Nimbin, Salanin, and Valassin. Azadirachtin, Salannin, Meliantriol, or Nimbin were considered the top four Limonoids compounds. Because limonoids have insecticidal and pesticidal properties, they can be used as chemosterilants, antifeedants, repellents, prevent the growth, attractants, or insecticides. Some of the Limonoid chemicals discovered from Azadirachta indica include Nimbin, Salannin, and Salannol. p[11].

Uses:-

1. Neem oil is a promising treatment for ageing signs like thin skin, dryness, and wrinkles, according to a study on hairless mice.
2. Neem oil aid in the healing of sores on the scalp following surgery.
3. Neem oil contains antifungal and antibacterial properties in addition to being an effective long-term treatment for acne.
4. It lessens moles and warts and helps wounds heal.[12]

4.] Ritha/ Indian soapberry

Botanical name: - Sapindus mukorossi

Family: - Sapindaceae

Genus: - Sapindus

The tree Sapindus mukorossi, also referred to Indian soapberry, washnut, and ritha, belongs to the Sapindaceae genus. It's an evergreen tree that can reach up to 1,200 metres above sea level inside the low foothills or midhills of a Himalayas (4,000 ft). Additionally, it is indigenous to Goa, Maharashtra, and western coastal Karnataka in India. One tree can yield 30 to 35 kilogrammes (66 to 77 lb) of fruits per year, can be planted close to farmers' residences, and is tolerant of moderately poor soil. [21]

Active Constituents:-

The Sapindaceae genus includes a tree Sapindus mukorossi, popularly known as Indian soapberry, washnut, or ritha. It is a evergreen tree that grows in the lower foothills and midhills of the Himalayas and can soar as high as 1,200 metres (4,000 ft). In India, it is also native in Goa, Maharashtra, and the western coastal region of Karnataka. When placed close to farmers' homes, one tree can produce 30 to 35 kilogram (66 to 77 lbs) of fruits annually and can tolerate somewhat poor soil. [21].The tree Sapindus mukorossi, also referred to that as Indian soapberry, washnut, and ritha, belongs to the Sapindaceae genus. It is a deciduous tree that can reach up to 1,200 metres above sea level with in low foothills or midhills of the Himalayas (4,000 ft). Additionally, it is indigenous to Goa, Maharashtra, and western coastal Karnataka in India. It can be grown near farmers' homes and can tolerate moderately bad soil. One tree can yield 30 to 35 kilogrammes (66 to 77 lbs) of fruit annually.

Uses:-

1. Ritha contains saponins, a great component with good cleansing properties that are used to make soap and face washes.
2. The perfect moisturising property of Ritha keeps the skin hydrated and prevents this same excessive drying of skin, that further helps to make the skin look radiant.
3. The combination of Ritha as well as Besan flour ready throughout water is applied to everyone parts of the skin. so it helps improve the skin glow as well as sustenance.
4. Rutha fruit possesses potent anti-bacterial and anti-inflammatory characteristics that aid in the treatment of skin conditions like psoriasis, acne, and eczema.[14]

5. Bilva (Bael)

Botanical name: - Aegle marmelos

Family**:** - Rutaceae

Genus**:** - Aegle

Aegle marmelos is a rare species of tree that is indigenous to the Indian subcontinent or Southeast Asia. It is also referred to as bael (or bili or bhel), Bengal quince, golden apples, Japanese bitter orange, stones apple, or wood apple. As a naturalised species, it can be found across India, Bangladesh, Sri Lanka, or Nepal. Hindus revere the tree as a sacred one. [20]

Active constituents:
Alkaloids, Mermesinin, Rutin, Phenylethyl Cinnamides, Anhydromarmeline, and Aegelinosides Sterols, as well as Essential oils, can all be found in leaves. Aegeline, Aegelenine, Aegelinosides A and B, Dictamine, Ethyl cinnamamide, Ethyl cinnamate, Fragrine, Halfordinol, Imperatorin, and Isoimperatorin, as well as Marmelide, Marmelosin, Marmesin, Marmin, and Methyl ether. [15]

Uses:

1. Bael is a great treatment for skin infections due to its antibacterial, antifungal, and anti-inflammatory properties.
2. An oil made from Bael plants is helpful for skin rashes and itching pimples.

These fruits are also well-known for their antioxidant, anti-inflammatory, and laxative properties, and they have been used for their therapeutic and medicinal properties in Ayurveda, Siddha, and other forms of alternative for thousands of years in medicine. Bael leaf is also a blood purifier. This helps to flush all the body's toxins.[16]

6. Nutmeg:

Botanical name: - Myristica fragrans

Family**:** - Myristicaceae

Genus**:** - Myristica

A number of species in the genus Myristica produce the seeds or ground spice known as nutmeg. A dark-leaved evergreen plant known as Myristica fragrans is farmed for the two spices that come out of its fruit: nutmeg, which is made from the seed, and mace, which is made from the seed covering. Moreover, it serves as a commercial source for nutmeg butter and an essential oil. Although the seeds of the California nutmeg, Torreya californica, resemble those of Myristica fragrans, they are unrelated to the latter and are not utilised as spices. Nutmeg and mace are mostly produced in Indonesia. Nutmeg powder can trigger allergic responses, contact dermatitis, or even have psychedelic effects if ingested in quantities that go beyond its regular use as a spice. Nutmeg has no known therapeutic benefits, despite being employed in traditional medicine to treat a number of ailments.

Active constituents:

In addition to 0.08% of an acidic component, nutmeg also contains 5 to 15% volatile oil, lignin, stearin, starch, gum, and colouring materials. Clemicine, Myristicin, Geraniol, Borneol, Pinene, Camphene, and Dipentene are all present in volatile oil. Moreover, it has trace amounts of isoeugenol, p-cymene, eugenol, and safrol. [17]

Uses:-

The pigmentation is lessened.

The mild abrasive quality of nutmeg makes it a fantastic skin exfoliant.

As result, skin becomes soft and smooth.

deals with greasy skin.

Anti-oxidant and anti-aging effects are present in nutmeg. Hence, it encourages youthful skin. natural cleanser for toning. [18]

Literature review of formulation and evaluation of herbal face pack

4.METHOD OF PREPARATION:

Formulation Of Herbal Face Pack:

Step:1. Using a digital balance, each of the necessary herbal powders for such face pack preparation was precisely weighed. The amount and ingredients are stated in Table :1

Step:2. The herbal medications, including cinnamon, orange peel, and neem, were added to a pestle and mortar and ground.

Step:3. Ritha, Bilva, and Nutmeg were three times ground inside a separate pestle and mortar to create a consistent, fine combination.

Step:4. To create a homogeneous face pack medicine powder, a previously made mix of herbal powders is added to a mix of fine powders then triturated.

Step:5. The granules went through sieve number 44.

Step:6. The created facial pack powder was labelled, placed in a self-sealing polyethylene bag, and used for additional research.

Procedure of face pack application:

1. Place the made face pack powder inside a basin with the rose water.

2. Mix thoroughly to create a paste with the correct thickness.

3. Use a brush to apply it uniformly all over the face.

4. Hide the pimples and imperfections.

5. Let in the same condition for 20–25 minutes to dry completely.

6. After that, wash it with cold water.

METHOD OF EVALUATION:

Organoleptic Evaluation:

The look, colour, scent, texture, grittyness, and washability of the substance are among the organoleptic factors that were personally assessed for their physical attributes**.**

1. Physiochemical Evaluation:

Physical and chemical data, such as water content, extractive values, pH, and ash values, were calculated.

2.Determination of moisture content:

The amount of moisture in plant medications is crucial since insufficient drying could result in the active ingredients deteriorating enzymatically. • Loss on drying was used to calculate moisture content (LOD). 3 grammes of the powdered medication should be precisely weighed, placed in a petri dish, and heated to 100–108°C in a hot air oven. It was weighed repeatedly to get a consistent weight.

3.Determination of extractive values:

The identification of used-up or tampered pharmaceuticals is the main application of extractive values. It aids in judging the product's purity and overall quality. Also, it provides information about that nature of these chemical components. A lower extractive value suggests the use of used materials, adulteration, or improper drying, storing, or formulation techniques.

4. Water soluble extractive value:

5gm of a precisely weighed sample should be macerated in 100ml of chloroform water for 24 hours in a stoppered flask. Shake often for the first six hours. Filter quickly over filter paper into the a 50 ml cylinder, and then evaporate 25 ml of the aqueous extract until it is completely dry in a shallow dish with a flat bottom. Dry the residue thoroughly inside an oven at 105 degrees before weighing after evaporating until dryness on the a water bath. In a desiccator, keep it. Calculate the percent weight-to-weight of the water-soluble extractive value using the air-dried medication as a reference after drying the extract to a constant weight.

5.Determination of pH:

It is a measurement of the product's acidity or alkalinity on a scale from 0 to 14. The pH of the face pack's composition in rose water were discovered.

6.Determination of Ash values:

The ash content in the item is the residue that is left over after thorough combustion. Ash value is just a standard used to determine a drug's identification or purity. A high ash value is a sign of contamination, adulteration, substitution, or carelessness in the product's manufacturing. Several methods can be used to calculate ash values.

Total Ash value:

Overall ash value is beneficial for identifying low-quality, depleted products as well as for identifying an abundance of sand- and earth-like materials in medication formulations. A prepared sample weighing between 2 and 4 grammes was put into a crucible that had already been lit and tared. When the substance was white, or free of carbon, it was ignited by progressively raising the heat applied to the crucible. After cooling in the desiccator, it was weighed. With reference to the air-dried sample, the percentage of total ash was computed.

Acid insoluble Ash value:

used to identify earthy material. 25ml of HCl was poured to a crucible containing the complete ash, and it was then covered with such a watch glass. 5 minutes of gentle boiling. After being cleaned with 5ml of hot water, the watch glass were put into the crucible. The insoluble material was gathered on ashless filter paper or neutralised by hot water washing. The insoluble material was transferred from the filter paper to a main crucible, dried on the a hot plate, and burned to a consistent weight. 30 minutes of desiccator cooling time was followed by weighing. Calculating the percentage of acid-insoluble ash used an air-dried sample.

Water soluble ash value:

It is the weight difference between the entire ash and residue following water treatment of total ash. It is utilized to determine whether or not the substance has been depleted by water. 25ml water was added to a crucible containing complete ash, and it was then heated for 5 minutes. With ashless filter paper, the insoluble materials was gathered. 450°C for 15 minutes while being lit in a crucible after being thoroughly cleaned with hot water. weighed after cooling. Calculating the percentage of water soluble ash required an air dried sample.

Conclusion:

The combined powders' dried form demonstrated strong flow characteristics, making it ideal for just a face pack. An organoleptic analysis revealed that the pack was smooth and has a good smell. The pack's flow characteristics were supported by rheological studies, which revealed that it was naturally free-flowing and non-sticky. No irritation existed, and the formulation was steady in all respects. Stability testing showed that the pack was inert. Further optimisation research on its many factors are necessary to determine its practical advantages for people. A herbal face pack was applied to refresh the muscles, keep the skin elastic, sweep away stuck-on debris, and enhance blood flow. Herbal-based cosmetics have the advantage of being nontoxic. It nourishes the skin on the face. This face pack gives the skin the nourishment it needs. It aids in the removal of scars, marks, and pimples. Facial packs have a soothing, calming, and cooling impact on the face while exfoliating it. They do so in the quickest possible time to restore the skin's natural radiance. Regular usage of natural facial packs enhances the appearance and texture of the skin. The adverse effects of pollution and severe conditions on the skin can be lessened by using face packs on a regular basis. They aid in keeping skin cells elastic and prevent the skin from ageing too quickly. Natural face can be used to successfully control wrinkles, fine lines, or skin loosening. We discovered great qualities in the face packs in our study, but additional research is required to determine their full potential as cosmetics.

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