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HERBAL DRUG USED IN THE TREATMENT OF ACNE

SHRUTI PATIL*, ANIKET PATIL[2], HARDIK PATIL[3], PRATIK PATIL[4], PRIYANKA PATKAR[5], Dir. SONALI UPPALWAR[6]

[6] SUPERVISED: (PhD)
Ideal Institute of Pharmacy, Wada, Palghar, Maharashtra, India
***Corresponding Author: Address:** Ideal Institute of Pharmacy, Wada, Palghar, Maharashtra, India.
Email: shrutipatil14356@gmail.com
Telephone: +91 8698098784

ABSTRACT

Everybody wants to look beautiful. The modern world even children are also not in exception. The desire reaches at peak when an individual enters into adolescent stage. Since the time immorial there are three basic needs of a man, e.g., food, shelter and health. Since ancient time the concept of Solah Shringar is common. It means there are 16 ways to beautify the body, i.e., lips, cheeks, hairs, palms and knees etc. The earlier man used to live in caves, used the bark, leaves of the trees and skin of animals to make himself from the vagaries of the nature. Since the vegetation and minerals are easily available, he used these for cosmetic purposes. Cosmetics are the substances specially prepared to enhance beauty and increase the attractiveness of a person.

Acne

There is lot of dispute in its caution, histopathology, pathophysiology in fact, everything but it existence. Acne flourishes in adolescence, beginning in prepuberty and dying away when the threshold of early adulthood is carried.it has been seen that almost everyone in the life suffers from outbreak of acnes and pimples and hence it has become the most common skin disorder.

Key words: Acne, Cosmetics, Herbs, Infection, Pimples, Skin disorder.

INTRODUCTION

ACNE (PIMPLES):

It Is a pleomorphic disease which affects more than 90% of young people. One of the main worries of acne apart from misery of seeing the face breakout in pimples is that the skin is permanently marked. Its expressions are multiferrous and eloquent.

Causes of acne:

- Bacterial infection.
- Hormonal changes.
- Diet.
- Genetic contribution. [1]

Types of acne:

- Papule
- Pustules
- Nodules
- Cysts

NOTE: Nodular and cystic are the most common types of acne. These are inflammatory types of *Acne vulgaris.*

1.2 Objectives:-

- Creating better Treatments: To successfully target acne-causing bacteria, inflammation, and excessive oil production, research and develop new or improved topical or systemic acne treatments.
- Reducing Acne Severity: Make products or treatments that help people with acne break out less frequently and with much less severity.
- Reducing Side Effects: To improve user adherence and tolerance, concentrate on developing treatments with fewer side effects.
- Enhancing Skin Health: Provide treatments for acne that not only address the condition of the skin but also work to make it smoother, clearer, and less prone to breakouts. [1]
- Improving Patient Compliance: Create treatments or products that are easy to use on a regular basis to make them more user-friendly and effective for patients. . [1]

1.3 Materials and Methods :-

- The wide scope of the current study and gaps in the existing data will necessitate a considerable amount of primary research.
- The approach adopted is to select the methodological elements best suited to compliment and supplement existing information.
- The following methodology has been referred from articles since 2015, informatory sites are pubmet, researchgate, sciencedirect, googlescholar.

1.4 Result and Discussion :-

A growing number of patients with infectious skin diseases and acne use complementary and alternative medicine, which includes medicinal plants. There is a long history of using medicinal plants, and research has indicated that they have few negative effects. These plants are a dependable source for making novel medications.

1.5 Conclusion :-

- From the above studies we have successfully collected , Revised and Authenticated the drugs and their use in treatment of Acne.
- Above studies also justifies that the herbs which are used in the treatment are potent , safe and has no side effects .
- The herb which are used show Anti acne Effect Generously. [2]

HERBS USED IN TREATMENT OF ACNE :-

1. **Neem :-**

Biological source :–

It contains leaves, fruits, branches of *Azadirachta indica*

Family :- Meliaceae.

Morphological characteristics:–

- Neem is a medium-sized tree, reaching 15 to 30 m in height, with a large rounded crown up to 10-20 m in diameter.
- It is basically evergreen but some of the time shed its takes off amid the dry season.
- Neem includes a profound taproot and may be a mycorrhizal-dependent species.
- The bark is dim, gets to be fissured and pieces in ancient trees.
- The branches are numerous and spreading. [3]

Chemical constituent :–

- Chief constituent are Nimbidin, azadirachtin, nimbin, nimbolide.
- Other constituents are polysaccharides,gallic acid and catechin. [4]

Use :–

- It gives antibacterial property to the skin.
- It also gives antioxidant property.

2. **Aloe :-**

Biological source :–

It is a dried latex of *Aloe barbadensis*

Family :– Liliaceace. [5]

Morphological characteristics :–

- It is a succulent plant.
- It is an evergreen perennial plant.
- It is an stem less or short stemmed plant.
- It grows upto 60-100 cm of height.
- Its leaves are thick and fleshy.
- They may be green to grey- green in color.

- Margin of leaves are serrated and it has small white teeth. [5]
- The shape of leaves is rosette shape.

Chemical constituents :–

- The chief chemical constituent of aloe is aloe-emodin ,which occurs in free form .
- Glycoside is present in various species of aloe.
- They also composed of anthrones and anthranols, which may be present in free or combined form as glycoside.
- Other chemical constituents are volatile oil to some extent which is responsible of its characteristic odour. [5]

Use :–

- It is used to treat painful inflammatory manifestations.
- It works as a great ingredient for treating multiple skin disorders and injuries.
- Aloe gel is used to treat and cure radiation burns to get immediate relief from itching and pains.
- Used to treat fungal infections such as ringworm, eczema, sun or chemically damaged skin/wrinkles.
- It is used to treat skin wounds. [5]

3. Liquorice :-

Biological source :–

Liquorice consists of peeled and unpeeled stolons, roots and stems of *Glycyrrhiza glabra Linn*, and other species of Glycyrrhiza

Family :– *Leguminosae*

Morphological characteristics :–

Liquorice root is in long, straight, about round and hollow, unpeeled pieces, a few feet in length, shifting in thickness from 1/4 inch to around 1 inch, longitudinally wrinkled, remotely grayish brown to dim brown, warty; inside brownish yellow; flexible, intense; surface coarsely sinewy; bark or maybe thick; wood permeable, but thick, in contract wedges; taste sweet, exceptionally marginally bitter

Chemical constituents :–

- Glycyrrhizin/glycyrrhizic acid are the major constituents.
- Glycyrrhitic acid, Glucoronic acid are the other constituents.
- It also contains Liquiritoside, iso liquiritoside, liquiritin, iso liquiritin Sugars-Glucose, mannitol, resin, Volatile oil.

Use :–

- Liquorice Prevents sun damage to the skin.
- It also Brightens the skin.
- Fade scars.
- It helps to treat wrinkle.

4. Green tea :–

Biological source :–

It is prepared from leaves and leaf buds of *Camellia sinensis*

Family :– *theaceae* [6]

Morphological characteristics :–

- Tea is a evergreen shrub or small tree.
- It is usually trimmed to below 2 m during the cultivation of its leaves.
- It is consist of strong taproot.
- The color of flowers are yellow – white.
- The size of flower is 2.5-4 cm in diameter.
- Its flowers consist of 7 or 8 petals.
- The size of leaves are 4-15 cm long and 2-5 cm broad.
- The young , light green leaves have short and white hairs on the underside.
- Older leaves are deep green in colour.

Chemical constituents :–

- It The leaves of tea consist of thease which is an enzymatic mixture containing an oxidase, which partly converts the phlobatannin into phlobaphene, as chemical constituent.
- Other chemical constituent present in tea leaves are tannins, caffeine.
  contain 1-5% of tannin and 10-24% of caffeine.
- In tea leaves theobromine is also present in small amount. Major chemical constituents are catechins and theoflavins.

Use :–

- The antioxidant, anti-inflammatory, and antibacterial properties of green tea make it an effective acne treatment.
- The polyphenols in green tea can battle contaminations by harming bacterial layers
- green tea also reduces blackheads, whiteheads.

5. Chamomile :–

Biological source :–

Chamomile consists of dried flower of *chamomilia recutitia*

Family :- *Asteraceae.*

It Morphological characteristics :–

- It is an annual aromatic herb that carries a height of 10–60 cm. It has feathery foliage with daisy-like white flowers and grows about 20 inches.
- The flowers have fragrance, but its foliage does not have any scents.
- Flowers are arranged in heads or a capitulum as the outer ring ray and inner disc florets, a common characteristic feature of family Asteraceae.
- The fruits produced are called achenes, which are cylindrical, 0.8–1 mm long, and around 0.5 mm wide, with three abaxial and two nearly marginal thin ribs.

Chemical constituent :–

- The components present is essential oil, chamazulene, α-bisabolol, and cis-β-farnesene, are hydrophobic in nature
- Other components such as flavonoids, coumarins, and phenolic acids
- The coumarins present are herniarin and umbelliferone in 0.1% concentration.

Use :-

- It acts as an anti-inflammatory to reduce the inflammation caused by acne.
- It provide skin-soothing effect.
- It also reduce scars.

6. Olive leaf :-

Biological source :–

It contains a dried leaves of *Olea europaeae* [7]

Family – *Oleaceae.*

Morphological characteristics:–

- The silvery dark green leaves were oblong and lanceolate, measuring 5.74–4.04 cm long and 1.54–1.12 cm wide . Leaves have an astringent bitter taste.
- The olive is an evergreen tree.
- The leaves tend to remain on the tree for 2 to 3 years, but this can vary.
- They have an curved or spear-like shape with total edges.
- The face of the leaf tends to have a dark green colour, the underside covered with white flakes, having a colour ranging between white and silvery.

Chemical constituents :-

Phenolic groups that are broadly clustered into secoiridoids, flavonoids, simple phenols such as hydroxytyrosol and tyrosol.

Use :–

- Olive Leaf Extract cleanses the pores.
- It absorbs excess oil from the skin.
- It facilitates the clearing up of acne breakouts by helping to dry them out and by eliminating acne-causing bacteria.

7. Lavender

Biological source –

It consist of shrub of *Lavandula angustifolia*

Family – *Lamiaceae*

Morphological characteristics –

- It is a colourless or yellow liquid.
- the fragrant constituents of which are linalyl acetate, linalool, pinene, limonene, geraniol, and cineole.
- Lavender water, a solution of the essential oil in alcohol with other added scents, is used in a variety of toilette preparations.

Chemical constituents –

- It consists of Linalool and linayl acetate.
- It also contains camphor lavandulol terpinene-4-ol camphene, borneol.

Use –

- kill bacteria, and this can prevent and heal acne breakouts.
- 0000It unclogs pores and reduces inflammation when you put it on your skin.
- To utilize lavender oil for skin break out, weaken it in coconut oil or another carrier oil and apply it to your skin after washing your confront

8. Guggul –

Biological source – Guggul consists of oleo-gum resin obtained as an exudate from the tapping of stem and branches of *Commiphora wightii* [8]

Family – *Belongs to the Burseraceae family.*

Morphological characteristics –Guggul manifests as a petite tree, reaching heights of up to 6 meters. Its branches, spiraling upwards in a brown hue, culminate in sharp-scented spines. The plant exhibits shiny, yellowish-white bark that sheds in rough scales, revealing a green under bark. This under bark forms papery rolls. Guggul, named after the yellow resin it produces, features small, quadrilateral-shaped leaves with vessel-like structures, typically numbering one to three.

Chemical constituent –Guggul is a complex amalgamation of various active constituents such as terpenoids, diterpenoids, steroids, flavonoids, and several inorganic compounds. Notable compounds include guggulsterones, myrrhanol, and eugenol.

Use –

Exhibits anti-inflammatory properties, potentially aiding in the treatment of acne, psoriasis, arthritis, and eczema.

Particularly effective in treating severe forms of acne on the chest, back, and face.

9. Oregon grape

Biological source –

Oregon Grape, scientifically known as Mahonia aquifolium, is an evergreen shrub.

Family:

Belongs to the Berberidaceae family.

Morphological Characteristics:

Oregon Grape presents as an evergreen shrub, growing to heights of 7-10 feet and widths of up to 5 feet, often forming irregular clumps. Its leaves, arranged alternately, are pinnately compound.

Chemical Constituents:

The composition of Oregon grape includes phenolic compounds, primarily carvacrol and thymol, comprising 50% of oregano oil. Additionally, it contains sesquiterpenes, terpinene, terpineol alcohol, flavonoids, and other compounds.

Uses:

Oregon grape finds topical application primarily in treating psoriasis. It has also been suggested for other skin conditions such as fungal infections, eczema, acne, and psoriasis.

10. Vitex

Biological source –

Vitex is sourced from the leaves of the Vitex negundo plant.

Family –

Belongs to the Verbenaceae family

Morphological characteristics –

Vitex features reddish-brown bark and digitate leaves with five lanceolate leaflets, occasionally three. Each leaflet measures approximately 4 to 10 cm in length, with the central leaflet being the largest and possessing a stalk. The leaf edges are toothed or serrated, and the underside is hairy.

Chemical constituents –

Its chemical composition comprises various compounds including n-Tritriacontane, β-sitosterol, phydroxybenzoic acid, and artemetin.

Use –

1. Enhances skin texture and aids in the prevention of warts, acne, and pimples.
2. Nirgundi juice, derived from Vitex, is recommended for treating bacterial skin infections and exhibits anti-acne properties.

11. Juniper

Biological source –

Juniper essential oil is extracted from Juniperus communis

Family –

Belongs to the Cupressaceae family.

Morphological characteristics –

Juniper presents needle-like leaves, 5-13 mm in length, arranged in whorls. These leaves are sharply pointed, spreading nearly at right angles from the branchlets, and are bluish-white on the upper surface.

Chemical constituents –

Juniper Berry Essential Oil contains compounds such as a-Pinene, Sabinene, Limonene, and Terpinene-4-ol.

Use –

- Soothes inflamed skin.
- Cleanses greasy skin.
- Unclogs skin pores.

12. Burdock –

Biological source –

It is a medicinal edible homologous plant *arctium lappa* [9]

Family – *Asteraceae*

Morphological characteristics –

- The roots, fruits, seeds and leaves of . A lappa have been extensively used in traditional Chinese medicine.
- Stout, downy, striated, branched stems (to 1 m) bear alternate, entire leaves which are large (to 50 cm long) and wide with a heart-shaped base and white down underneath.
- The petioles (leaf-stalks) are solid. [9]

Chemical constituent –

- Arctiin is one of the main active components extracted from the dried ripe fruit of A. lappa
- It also contain arctigenin and inulin. [9]

Use –

- It helps to improve skin condition.
- It detoxifies blood and promotes blood circulation to skin surface, improving skin texture and mitigating condition like psoriasis, acne, eczema, boils and abscesses. [9]

13. Red clover –

Biological source –

Red clover is a herbaceous species of flowering plant of *trifolium pratense* [10]

Family – *Fabaceae*

Chemical constituent –

- Mainly it contains Daidzein, Genistein, irilone.
- It is a source of many nutrients including calcium, chromium, magnesium, niacin, vit.C.

Morphological characteristics –

- The red clover is a short-lived perennial (2-4 years) legume forage, mainly from temperate areas.
- • It has an erect propensity and may hold up when the plant gets to be stemmy.

  • It shapes a 1 m profound taproot within the first year and after that produces auxiliary adventitious roots that investigate the upper soil layer (30 cm profound).

  • Basal buds frame a crown over the soil and may root at the hubs
- Each bud produces 4-6 upright, hollow and pubescent stems, up to a height of 60-80 cm

Use –

- It is used to treat psoriasis.
- To treat Eczema. Also used to treat other rashes. [10]

PLANTS USED IN ACNE :- [5]

S.No.	Common name	Botanical name	Family	Method of use
1.	Kattha	*Acacia catechu*	Leguminosae	Heartwood extract is applied on the affected part.
2.	Garlic	*Allium sativum*	Liliaceae	Juice of garlic clove is applied on the affected part.
3.	Arhar	*Cajanus cajam*	Leguminosae	Paste of leaf is applied.
4.	Calandula	*Calandula officinalis*	compositeae	Flower extract is applied.
5.	Lemon	*Citrus lemone*	Rutaceae	Lemon oil is applied on the affected part.
6.	Jangli haldi	*Curcuma aromatica*	Zingiberaceae	Rhizomes paste is applied.
7.	Kapas	*Hedychium spicatum*	Zingiberaceae	Seed paste is applied.
8.	Lavender	*Lavevdula vera*	Laminaceae	Volatile oil is applied on the affected part.
9.	Babuna	*Matricaria chamomilla*	Asteraceae	Flower paste is applied.
10.	Gule-abbas	*Mirabilis jalapa*	Nyctaiginaceae	Flower paste is applied.
11.	Sandal	*Santalum album*	Santalaceae	Volatile oil is applied on the

				affected part
12.	Methi	*Trigonella foenum raceum*	Leguminosae	Powdered seed with oil are applied on the affected part

Conclusion :-

Numerous plants exhibit inhibitory properties against the growth of bacteria, fungi, and viruses in laboratory settings. Yet, clinical evidence supporting the efficacy and safety of these plants in treating acne and other skin infections remains limited.

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