A Review report on herbs used for the management of Acne

IN

BACHELOR OF PHARMACY

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Certificate

This is to certify that the Project entitled "A REVIEW REPORT ON HERBS USED IN THE MANAGEMENT OF ACNE" by..Rupak Enrollment No. – 1712102070

has been prepared by me without resorting to Plagiarism. I shall be held responsible for any issues related to Plagiarism as per the UGC regulations, 2017.

(Rupak)

Signature of the Student

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INTRODUCTION

Acne is a skin break out is a skin condition that happens when your hair follicles become obstructed with oil and dead skin cells. It regularly causes whiteheads, zits or pimples and normally shows up on the face, temple, chest, upper back and shoulders. Skin break out is generally basic among youngsters, however it influences individuals, all things considered.

Psychological comorbidities, including depression and anxiety have largely been associated with acne but it is unclear whether acne is the cause or only worsens the pree isting conditions. The potential for hyperpigmentation and scarring into adulthood affects later quality of life as well. Thus more patients are presenting to health care providers seeking treatment.

Classification of Acne

1. Nodular(inflammatory)

➔ Severity Classification:

- **Mild-** limited to the face and characterized by presence of non inflammatory open or closed.
- **Moderate-** characterized by a moderate no of comedones and an increased no. of inflammatory papules and pustules on the face and possible mild truncal disease.
- **Severe-** nodules and cysts are present that are painful and pustular along with many smaller paules, pustules and comedones.
- **Very severe-**
  Inflammatory acne with nodules and cysts covering the infected region.

TREATMENT

Acne medications reduce oil production, speed up skin cell turnover, combat bacterial infection, and reduce inflammation, all of which help to prevent scarring. Over-the-counter creams and cleansers, as well as prescription antibiotics, are used as treatments.

Topical medication

The most common topical prescription medication are:

Retinoids and retinoid-like drugs are Creams, gels, and lotions are available.
It functions by preventing hair follicle plugging.

Antibiotics -
These function by destroying bacteria on the surface of the skin and reducing redness.
Antibiotics are often used in conjunction with benzoyl peroxide to minimize the risk of antib iotic resistance.
Clindamycin with benzoyl peroxide and erythromycin are two examples.

Dapsone. For inflammatory acne, Dapsone 5 percent gel twice daily is recommended, particularly in adult females with acne. Redness and dryness are two common side effects.

Salicylic acid and azelaic acid. Azelaic acid is present in whole-grain cereals and animal products as a naturally occurring acid. It's antibacterial in nature. When combined with erythromycin, it's even more successful..Skin discoloration and mild skin irritation are among the side effects.

Salicylic acid, which comes in both wash-off and leave-on forms, can help prevent clogged hair follicles.

Oral medications

Antibiotics.
You will need oral antibiotics to reduce bacteria and combat inflammation if you have mild to se rious acne.

Tetracycline is usually the first line of treatment for acne.
such as minocycline or doxycycline — or a macrolide.

To avoid antibiotic resistance, oral antibiotics should be used for as little time as possible.
Topical retinoids and benzoyl peroxide work well with oral antibiotics.
Antibiotic resistance can be reduced by using topical benzoyl peroxide in conjunction with oral antibio tics, according to research.

.

Antibiotics can cause stomach upset and dizziness, among other things.

These medications also make the skin more sensitive to the light

- **Oral contraceptives.** Oral contraceptives are a form of contraception that is taken orally. The FDA has licenced four combination oral contraceptives for acne treatment in women who also choose to use them for contraception. They are oestrogen and progestin-containing products. weight gain, breast tenderness and nausea are the common side effects of the oral contraceptives drugs.
- **Anti-androgen agents.** If oral antibiotics aren't working, women and teenage girls might be prescribed spironolactone. It functions by preventing androgen hormones from acting on the sebaceous glands. Breast tenderness and painful cycles are two possible side effects.
- **Isotretinoin.**
  Isotretinoin is an effective medication used to treat extreme acne in people who have failed to respond to other therapies
  Isotretinoin is very effective when taken orally. However, because of the drug's possible side effects, physicians must carefully track everyone who is given it. Ulcerative colitis, an elevated risk of depression and suicide, and serious birth defects are all possible side effects.
  Treatments

Therapies

In certain cases, these treatments can be recommended alone or in conjunction with drugs.

- **photodynamic therapy and lasers**
- **Chemical peel.**
- **Extraction of whiteheads and blackheads.**
- **Steroid injection.**

Herbsusedinthetreatmentof Acne

1.)MANJISTHA

Review articles:

MANJISTHA -IN THE CURE OF SKIN CONDITIONS, SERVING HERBS

ABSTRACT:

Manjistha (Rubia cordifolia) are often verified a best remedy to cure skin condition, because of its Varnya, Raktashodhak, properties. bound analysis papers have conjointly verified that it possesses medicinal drug, medicine, inhibitor and anti-androgenic effects as these square measure necessary Pharmacotherapeutic agents to interrupt the pathological process of skin condition.

INTRODUCTION:

Rubia cordifolia. unremarkably madder in India could be a perennial, nonwoody prickly climber with a long, cylindrical root and thin red bark accepted for its adaptable action. one among its distinctive action is anti-acne result through anti-bacterial, medicinal drug, inhibitor. The roots and stems square measure accepted supply of Anthra quinones, the root are conjointly been according as inhibitor, medicinal drug.

Manjistha was once thought to be a cheap blood vessel, and it was widely used to treat blood, skin, and urinary diseases in the ancient world. Manjistha was also used to treat major burns, as well as freckles and blemishes, when mixed with honey. In writing,
Historically, the roots have been used to treat a variety of general issues and skin pigmentation abnormalities, and they are an excellent aid in the promotion of comple ion.

CONCLUSION:

In gift situations, there is a movement toward prescribing combination medical assistance for a variety of diseases, including skin disease. As a result, the chances of drug interactions and side effects increase, necessitating individual counselling evaluation. Manjistha has a number of strategies for dealing with this issue, and this may be a novel approach to skin care.Manjistha's importance in skin health is supported by ancient and contemporary practises, which indicate that it functions as a potent blood apparatus, inhibitor, medicinal drug, anti-stress, and antimicrobial, all of which could help to cure skin condition.

A REVIEW STUDY OF MEDICINAL USES OF MANJISTHA :

- **ABSTRACT:**

rubia cordifolia Linn.is a seed plant species. it's commonly referred to as Manjistha. Roots and stems are an active part of the plant. Plant has several pharmacologic actions like purifying blood, anticancer,anti-acne, anti-inflammatory, anti-microbial, antidysenteric antiseptic, antirheumatic properties This review presents the knowledge on synonyms, microscopic, macroscopical, chemical constituents, uses and pharmacologic actions of Manjishtha.

- **INTRODUCTION:**

Rubiacordifolialinn.Is a flowering plant species. it's unremarkably referred to as manjistha. Roots and stems are full of life, a part of the plant. Plant has several pharmacologic actions like blood setup activity, anticancer, astringent, anti-acne, medicine, anti-microbial, antidysenteric, antiseptic, nephroprotective, antirheumatic and hepatoprotective properties.Charaka has enclosed manjistha in varnya, vishaghna and jwarahara mahakashaya whereas sushrua has enclosed in priyangwadi, tyrannid sanshamani varga and ambawashtadi gana.

- **TRADITIONAL USES IN DIFFERENT SYSTEMS OF HERBAL MEDICINES:**

The foundation is an ancient Korean medical method that is used to treat rheumatism, jaundice, and catamenial disorders. A decoction of the root is drunk as a treatment for urinary disorders in the Philippine system. For inflammatory disease and different inflammatory conditions of the chest, the natives of the republic of African nation take a stewing of the leaf or root. The stem is used in the Tibetan medical system to treat blood diseases and spread fever in the kidneys and intestines.R. Cordifolia has been prescribed in the Unani method of medicine for palsy, dropsy, jaundice, symptom, tract obstructions, skin disorders, and catamenial.nephritic.
Roots facilitate blood, promote micturition, avoid coughing blood or unconditioned reflex blood, and nose injury in the Chinese system of medicine. The plant is also beneficial in the treatment of menstrual irregularities caused by blood stasis, and jaundice and swelling.herb used for abnormal female internal reproductive organ injury, internal and external hemorrhage, bronchitis, and rheumatism.

Therapeutic uses: it's a blood purifying agent and pigment stimulant. it's helpful in diseases of blood and skin. it's utilized in Yoni Roga, Akshiroga, Shleshma Jasotha, Manjistha Meha, Rakta Atisara, Kushtha, Visarpa, Prameha, Sarpavisha, Bhagna, Arsha, Vyanga.

- **CONCLUSION:**

Manjishtha may be a vital drug that is delineated from the past. Acharya had already known the importance of manjistha in therapeutic management. therefore they used single or together within the type of churna, kwath, lepa, ghrita, tailaetc. Used internally or outwardly to cure and forestall varied diseases. The multiple edges of rubia cordifolia created it a real miracle of nature. it's many

effects like anti-oxidant, anti inflammatory, anti-acne,
anti-arthritic, anti-cancer, anti-convulsant, anti-diabetic, anti-microbial, antiperoxidative, anti-proliferative, anti-stress, anti-ulcer, anti-viral, diuretic, gastroprotective, neuroprotective, immune modulating, radiation protecting, hepatoprotective wound healing etc. Properties.

2.)NEEM:

Review articles:

INSIGNIFICANT ANTI-ACNE ACTIVITY OF *Azadirachta indicaLEAVESA D BARK*

- **Abstract**

Materials and Methods: The plant's monographic study was accompanied by phytochemical screening of the subsequent e tracts of leaves.and Azadirachta indica bark.Alkaloids, flavonoids, saponins, terpenes, and tannins were found in the samples.The existence of many phytoconstituents in dichloromethane and methanolic e tracts was revealed by gas chromatography-mass spectrometry (GC/MS) research.

Conclusion: Despite its medicinal properties, margosa had a negligible effect on bacteria that cause skin infections.

- **Introduction:**

Neem is an evergreen tree with fairly hairless leaves. each a part of the tree has some therapeutic worth and has been used since antiquity as a social unit remedy against numerous ailments. The bark thickness varies in line with age and also the portion of the tree from wherever it's been taken. Its e ternal surface is rough and fissured in te ture with a rusty-gray color, whereas the laminated inner surface is yellow and foliaceous with longitudinal furrows. The leaves square measure lanceolated, acute, serrated, 7–8.5 cm long and one.0–1.8 cm wide with yellowish–green color and possess a characteristic odour together with a bitter style.

The bark and leaf e tracts are used as people drugs to manage diseases like leprosy, blood morbidity, itching, skin ulcer, burning sensation, and

metabolism disorders. This e tract is additionally fungistatic, medicament, and a general health promoter. Rheumatism, chronic syphilitic sores, and ulcers have all been treated with it.

Chemical investigation, mentioned within the literature, highlighted the presence of quite a hundred thirty five compounds within the completely different components of the plant. These compounds are classified into two classes :- first one is isoprenoids and second is non isoprenoids. isoprenoids embody diterpenoids and triterpenoids containing nimbin, nimbolide, salanin, and organic compound.Nimbolide has shown medicament activity against S. aureus and S. coagulase.

Noticeable improvement was discovered once a paste of crushed neem tree leaves, that could be a in style home remedy, was applied on the a part of the face laid low with skin condition. The bark provided associate degree medicament impact because of the presence of margolone, margolonone, isomargolonone, and so on. Literature has conjointly discovered the presence of polyphenolic compounds within the bark, that have a strong inhibitor potential to neutralize the damaging effects of free radicals, and these compounds offer medication activity. The methanolic e tract of the leaves provided antipyretic and anti inflammatory effects in male rabbits.

Based on the useful effects of azadirachta indica, the current study is undertaken to determine the antimicrobial potential of neem tree within the treatment of skin condition.

- **Discussion**

Neem could be a versatile medicative plant and could be a distinctive supply of varied compounds possessing various therapeutic edges. within the gift study, the phytochemical and GC/MS analyses have indicated the presence

of bioactive compounds. Literature has conjointly discovered that the bark and leaves possess polyphenolic compounds, that square measure liable for medicament, inhibitor, and anti inflammatory activities.] Another study indicates that rock oil ether, water, and ethanolic e tracts of margosa
e hibit moderate repressive activity against P.acnes. during this study, though the active parts documented for anti-acne activity, particularly particularly and terpinen-4-ol, were found in each AILME and AIBDCM, the results incontestable associate degree insignificant anti-acne activity in AILME and AIB DCM e tracts, compared to clindamycin.

- **Conclusion**

Hence, the current study doesn't support the usage of this plant for the treatment of acne as a result of its insignificant activity against
acne-causing organisms.

Azadirachtaindica(Neem)

Therapeutic role and active constituents in disease treatment and prevention

- **Abstract**

Previous research has proven that neem and its constituents play a role in atom scavenging and disease pathological process interference.

Animal models corroborated the findings that Azadirachta indica and its components play important roles in antineoplastic therapy by modulating a variety of molecular pathways.
It's regarded as a safe medicinal plant that regulates a variety of biological functions without causing harm.

- **Introduction**

Neem ingredients square measure applied in written material, homeopathy unani and trendy medication for the treatment of the many diseases. differing kinds of preparation

supported plants or constituents square measure very fashionable in several area in malady management.

Biological and medicinal activity, as well as medicine, antifungal, and anti-inflammatory properties, are all mentioned. Previously, researchers established their anti-inflammatory, antiarthritic, antipyretic, hypoglycaemic, anti-peptic ulcer, antifungal, medicine.

- **Active Compounds of neem tree L. (Neem)**

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Azadirachta indica L., exemplifies medicine's role in health care.because of made sources of varied varieties of ingredients. The foremost vital active constituents square measure organic compound and therefore the others square measure . Nimbin, nimbanene, 6-desacetyl nimbinene, nimbandiol, nimbolide, water-soluble vitamin, n-he acosanol, and amino alkanoic acid are all found in the leaves.

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- **Active Compounds' Mechanisms of Action**

The Meliaceae family member neem (Azadirachta indica) has medicinal implications in terms of interference and therapy. however the precise molecula mechanism within the interference of pathological processes isn't understood entirely. It's thought-about that neem trees show therapeutic role because of the made supply of inhibitor and alternative valuable active compounds like organic compounds, nimbin,nimbolinin,nimbidol quercetine.

The following is a possible mechanism of action for the neem tree:

Components of the neem plant indicate antibacterial activity by limiting microbial growth and cytomembrane breakdown potential. The primary element responsible for each antifeedant and nephroto ic actions in insects is organic substance, a fancy tetranortriterpenoid limonoid found in seeds. The plant product e tract of Azadirachta indica leaves demonstrated in vitro medicinal efficacy against each cocci aureus and MRSA.

Because of the produced sources of antio idants, neem has atom scavenging abilities. Within the following order, organic compound

Through the control of cell signal pathways, the neem component has shown to be effective in the treatment of cancer. Azadirachta indica affects tumour suppressor genes, development, transcription factors, and necrobiosis in different ways.

Neem conjointly plays a job as an anti-inflammatory drug via regulation of

pro-inflammatory protein activities as well as Co (CO) and lipo ygenase (LO) protein.

- **Pharmacological actions of Azadirachta indica**

Active constitutes play a job within the disease's cure through activation of antio idative enzymes, rupture the cytomembrane of bacterium and by the control of cellular processes, act as a chemopreventive

- **Conclusion**

Because of their less invasive features, natural products or their derivatives are becoming more popular in the treatment and prevention of diseases around the world. Azadirachta indica and its constituents have medicinal properties and have been used throughout history, particularly in India. Azadirachta indica performs a polar role in interference of varied diseases,according to clinical investigations. Active compounds have been found to have chemopreventive effects in a variety of tumours by modulating several cell signal pathways. To determine the specific mechanism of action in disease management, a detailed study should be conducted with supported animals.

3.) <u>TEA TREE:</u>

★ **<u>Review articles:</u>**

Melaleuca alternifolia (Tea Tree) OIL: ANTIMICROBIAL PROPERTIES REVIEW

- **Abstract**

Complementary and different medicines like tea tree oil became progressively common in recent times.This volatile oil has been used in Australia for than a century, but it is now available worldwide as a pure oil and as an active ingredient in a variety of products.This article outlines recent advances in our understanding of antibiotic resistance.
Specific mechanisms of antibacterial and anti-inflammatory effect are discussed in detail, as well as the oil's toxicity.

- **Chemistry and composition**

TTO is made up of hydrocarbon hydrocarbons, primarily monoterpenes, sesquiterpenes, and the alcohols that go with them. Terpenes are highly volatile compounds

TTO is divided into twelve, twenty-one, and forty-eight pieces, according to early sources. Brophy and colleagues' seminal article investigated over 800 TTO samples using gas natural process and gas chromatography-mass spectrum analysis, rumoured to be one hundred parts and their concentration ranges.

- **Conclusion**

To prevent antibiotics from becoming obsolete, a paradigm shift in the management of infectious diseases is required, and alternatives to antibiotics must be considered wherever possible. Many nonantibiotic techniques to infection treatment and interference, such as probiotics, phages, and phytomedicines, are already available. Several patients favour alternative remedies since they are often not benefited by traditional medical therapy and believe there are less negative side effects. Several people have also reported significant improvements.

4.) <u>WITCH HAZEL:</u>

★ **R <u>eview articles:</u>**

EXTRACTS AND FORMULATIONS OF WITCH HAZEL EXTRACTS AND POTENTIAL ANTI-INFLAMMATORY ACTIVITY ON PRIMARY HUMAN DERMAL FIBROBLAST CELLS:

- **Abstract**

Background

Plants, their extracts, and compounds have been shown to have medicinal properties in numerous studies. The goal of this study was to see how effective three plant extracts were at inhibiting and reducing inflammation.

Methods

Anti-collagenase, anti-elastase, trolox equivalent, and enzyme activity were measured in aqueous extracts and formulations of witch hazel.

Results

All extracts had significant anti-collagenase, anti-elastase, and inhibitor activities, with the exception of the witch hazel distillation, which had no activity in the enzyme assay or the trolox equivalent assay. There was no enzyme activity in any of the examined samples or had a big result on the spontaneous secretion of IL-8 within the management

cells that were additional substantiated in the research result and therefore the Neutral Red viability take a look at.

A REVIEW STUDY OF MEDICINAL USES OF WITCH H AZEL:

- **Overview data**

Symptoms, secretion redness, inborn reflex blood, expulsion blood, infectious disease, colds, fevers, tumours, and cancer are all treated with witch hazel.

For cutaneous sensation, pain and swelling (inflammation), eye inflammation, skin injury, mucosa inflammation, duct status when biological time, unhealthy veins, haemorrhoids, they're also found in various drugs, giving them the ability to reduce or eliminate damage.

- **How is it going to work?**

Tannins are compounds found in witch hazel. Witch hazel help reduce swelling, mend injured skin, and fight microorganisms

- **Side Effects & Safety**

Witch hazel is probably SAFE for most individuals. It could cause slight skin irritation in some people.

Many adults are likely to be SAFE after taking little dosages of witch hazel orally. When witch hazel is taken orally, it may cause indigestion in some people. Massive doses could potentially harm the liver.

- **Special Precautions & Warnings:**

Children: Once applied to the skin, witch hazel is supposedly SAFE for children**.**

5.) ALOE VERA:

★ Review articles:

- **Active parts with its properties:**
  Vitamins are essential for good health. all antioxidants, are found in it. It also has cyanocobalamin, folic acid, and B-complex vitamins in it. Free radicals are neutralised by the inhibitor.

- ❑ Enzymes: There are eight enzymes in this mixture: arbitrate, base-forming enzyme, When administered directly to the skin, Bradykinase helps to reduce inflammation.
- ❑ Minerals: They're necessary for the proper functioning of a variety of protein systems in a variety of metabolic pathways, and just a few are antioxidants.
- ❑ Anthraquinones: It contains twelve anthraquinones, which are phenolic resin compounds that were once known as laxatives. Aloin and emodin have anti-inflammatory, antibacterial, and antiviral properties.

  Fatty acids: It contains sterol, campesterol, -sitosterol, and lupeol, which are all plant steroids. These have medicinal effects, and lupeol also has antibacterial and analgesic qualities.

  Hormones are the body's chemical messengers. Auxins and gibberellins are hormones that help wounds heal faster and

  Have a medicinal effect
- ❑ Others: It contains twenty of the twenty-two amino acids required by humans, as well as seven of the eight essential amino acids. It also contains 2-hydroxybenzoic acid, which has medicinal and therapeutic benefits.

- **Mechanism of actions**

1. radiation
2. Anti-inflammatory action
3. Effects on the system
4. Laxative effects
5. Antiviral and antitumor activity
6. Moisturizing and anti-aging result
7. Antiseptic result

A SYSTEMATIC REVIEW OF ALOE VERA CLINICAL TRIALS ON SKIN WOUND

- **Abstract**

Background: Aloe vera is a nonwoody perennial plant in the Liliaceae family that is used for a variety of medicinal purposes. The goal of this study was to conduct a systematic analysis of clinical trials relating to the effects of aloe.

Conclusion: Because of the qualities of aloe and its constituents, it is used to keep the skin moist and healthy, as well as to prevent ulcers.

- **Introduction**

The aloe vera plant is native to tropical Madagascar, Saudi Arabia, and Iran. It is a perennial herbaceous plant with thick, fleshy, and long leaves that looks like a cactus. It belongs to the Liliaceae family. Aloe was utilised by Egyptian princesses Nefertiti and Cleopatra as part of their daily beautification routine.

Seventy five acknowledged compounds are known in aloe, together with twenty minerals, twenty aminoacid , water and vitamin.

studies have shown that aloe inhibits thromboxane (a component of wound healing), improves wound healing, and reduces inflammation. Magnesium bottle-feed included inside the gel prevents the formation of amine, which causes itch and improves the system .By decreasing IL-6 and IL-8, reducing white blood corpuscle adhesion, increasing IL-10 levels, and lowering tumour necrosis factor alpha levels, aloe is useful in reducing inflammatory reactions. The chemical glucomannan, which is rich in polysaccharides like mannose, is responsible for its regenerating qualities. Glucomannan enhances the activation and proliferation of formative cell protein receptors, resulting in an increase in albuminoids assembly.

Because ninety-nine percent of the gel contains water, scientific investigations have proven that it increases pliability and reduces skin fragility. Furthermore, aloe's mucopolysaccharides, amino acids, and metallic element.

C ONCLUSION

Acne vulgaris is that the most common skin condition that affects folks in their adolescence. acne is characterised by skin with skin disease, blackheads and comedones, papules, papules, pimples and scarring.

Various scales used for grading the severity of acne are varied medicines for acne treatment includes blanching agent, antibiotics like Erythrocin, clindamycin, tetracyclines, antiseborrheic medications like sulfur and metal sulfonamide, anti- steroid hormone medications like norgestimate, desogestrel or drospirenone, Dianette, Yasmin, hydroxy acid, secretion treatments, alpha acid, retinoids, azelaic acid, keratolytic soaps and nicotinamide. presently optical device and light-weight devices and minor subcision surgery are additionally performed for skin condition treatment. Recently order sequencing of P. acnes bacteriophage(PA6) known that might enhance the event of a possible bacteriophage medical care to treat skin condition.

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