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Review On Pharmacognostic Study of Polyherbal Plant and Oil

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Abstract: *Medicinal plants, having great elementary and therapeutic importance, are the gift to mankind to acquire healthy lifestyle. Nirgundi, commonly known as Five leaved chaste tree is one of the most widely used herb for treatment purposes. Tulsi acts as a natural immunity booster and keeps infections at bay. honey is used as an anti-inflammatory, antioxidant and antibacterial agent. Cinnamon has anti-fungal, antioxidant and antibacterial properties that make it the perfect solution for acne-free skin. Fennel Oil can help to soothe and calm your skin. turmeric prevents skin cells from clumping together and clogging the pores. eucalyptus essential oil is antiseptic and antibacterial, it helps cleanse the epidermis of impurities that contribute to acne. Multani mitti helps fight dark circles and sun damage due to its cooling effect on the skin.*

Keywords*:* Anti-bacterial,anti-microbial,anti-aging,anti-viral,nirgudi

I. INTRODUCTION

Ayurveda believes that the entire universe is composed of five elements: Vayu (Air), Jala (Water), Aakash (Space or ether), Prithvi (Earth) and Teja (Fire).Nirgundi is an Ayurvedic medicine made from the dried leaves of Vitex negundo (Family Verbenaceae),shows a anti-bacterial activity.Tulsi is called the queen of all herbs, it is used widely in Ayurvedic and naturopathic medicines which helps in the healing of the human body in a natural manner .Honey is a supersaturated solution of sugar made by bees.Turmeric has been put to use as a foodstuff, cosmetic, and medicine. Cinnamon (Cinnamomum verum), also called Ceylon cinnamon, is a bushy evergreen tree of the laurel family (Lauraceae) and the spice derived from its bark.Fennel oil is obtained by steam distillation of the dried fruits of Foeniculum vulgare.Nilgiri oil is known for its effective properties to treat wounds, cuts, scraps, bruises, sores and burns over time.Multani mitti may be an effective home remedy for pimples or acne, as well as marks left by healed acne. This clay may be used daily to keep the skin clean and healthy.

Plant profile

Following main ingredients I have used in preparation for chyawanprash chocolate

- Vitex negundo
- Tulsi
- Turmeric
- Honey
- Nilgiri oil
- Multani mitti
- Cinnamon oil
- Fennel oil

1) vitex Negundo:

Geographical Source:

.Vitex negundo is native to tropical Eastern and Southern Africa and Asia. It is widely cultivated and naturalized elsewhere.Vitex negundo, commonly known as the Chinese chaste tree,[2] five-leaved chaste tree, or horseshoe vitex, or nisinda is a large aromatic shrub with quadrangular, densely whitish, tomentose branchlets. It is widely used in folk medicine, particularly in South and Southeast Asia.

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Taxanomy
Biological source: vitex negundo
Family: Verbenaceae
Kingdom: Plantae.

Chemical consituents
Plants have many chemical constituents as flavonoids, volatile oil, triterpenes, diterpenes, sesquiterpenes, lignan, flavones, glycosides, iridoid glycosides and stilbene derivative. These chemical constituents are present in each part of the plant.

Uses :
Nirgundi is already in clinical use in traditional systems of medicine including Ayurveda, Unani and Siddha for the management of pain, headache, inflammation, leukoderma, enlargement of spleen, rheumatoid arthritis, gonorrhoea, bronchitis, fever, cold and cough.

2) Tulsi:

Geographical Source
Tulsi is an aromatic shrub in the basil family Lamiaceae (tribe ocimeae) that is thought to have originated in north central India and now grows native throughout the eastern world tropics.

Taxanomy
Kingdom:Plantae
Family:Lamiaceae.
Common name : holy basal

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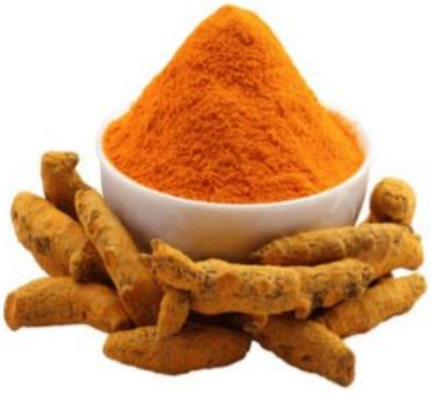
Biological name: Ocimum Tenuifloram

Chemical consituents :
.Oleanolic acid, Ursolic acid, Rosmarinic acid, Eugenol, Carvacrol, Linalool, and β-caryophyllene,

Uses
Antimicrobial (including antibacterial, antiviral, antifungal, antiprotozoal, antimalarial, anthelmintic), mosquito repellent, anti-diarrheal, anti-oxidant, anti-cataract, anti-inflammatory, chemopreventive, radioprotective

3) Turmeric:



Geographical source :
India produces nearly all of the world's turmeric crop and consumes 80% of it. With its inherent qualities and high content of the important bioactive compound curcumin, Indian turmeric is considered to be the best in the world.
Taxonomy:
Biological source: curcuma longa
Family : zingiberaceae
Kingdom:plantae

Chemical consituents:
.aromatica Salisb. 8,9-Dehydro-9-formyl-cycloisolongifolene (2.7–36.8%), germacrone (4.3–16.5%), ar-turmerone (2.5–17.7%), turmerone (2.6–18.4%), ermanthin (0.8–13.3%), β-sesquiphellandrene (0.3–11.3%), and ar-curcumene (0.3–10.5%).
Uses:
Reduces Inflammation. ...
Fights Free-Radical Damages. ...
Improves Immune System. ...
Helps Ease Joint Pain. ...
Treats and Prevents Cancer. ...
Guards Your Heart. ...
Treats Your Gut. ...
Enhances Mood.

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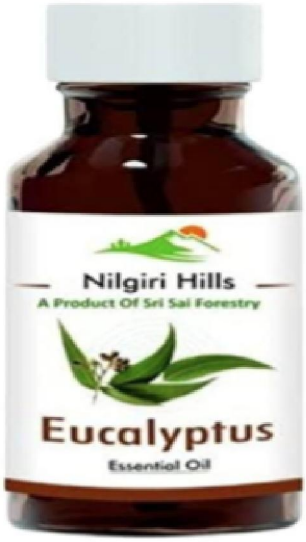
4) Honey :

Geographical Source:
Honey is produces in certain parts of West Indies, California, Chile, Africa, Australia, and New Zealand and also in India.

Taxanomy
Biologicalsource**:** Apis mellifera
Family :Apidae
Kingdom:Plantae

Chemical consituents :
generally honey has a content of 80–85% carbohydrates, 15–17% water, 0.3% proteins, 0.2% ashes and minor quantities of amino-acids, phenols, pigments and vitamins (Bogdanov et al., 2008, Miguel et al., 2017).
Uses:
In addition to its use as a natural sweetener, honey is used as an anti-inflammatory, antioxidant and antibacterial agent.

5) Nilgiri oil:



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Geographical source:
eucalyptus, (genus Eucalyptus), large genus of more than 660 species of shrubs and tall trees of the myrtle family (Myrtaceae), native to Australia, Tasmania, and nearby islands.

Chemical constituents:
The major constituents of Eucalyptus leaves essential oils are 1,8-cineol (49.07 to 83.59%) and α-pinene (1.27 to 26.35%)**.**

Uses:
Eucalyptus Oil is anti-septic in nature. It is effective in healing wounds, ulcers, burns, cuts, abrasions and sores.

6) Multani mitti:

Geographical source:
The name comes from the city of Multan, in modern-day Pakistan, the area of its origin.

Chemical constituents:
Multani mitti comprises of hydrated aluminium silicates, magnesium chloride, and calcium bentonite and has a composition similar to bentonite clay.

Uses:
reducing oil.
fighting acne.
balancing and brightening skin tone.
reducing pigmentation**.**

7) Cinnamon oil:

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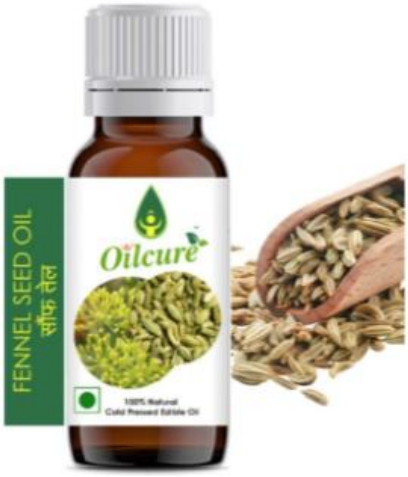
Geographical source:
Cinnamomum zeylanicum, the source of cinnamon bark and leaf oils, is an indigenous tree of Sri Lanka, although most oil now comes from cultivated areas. C. zeylanicum is an important spice and aromatic crop having wide applications in flavoring, perfumery, beverages, and medicines.
Chemical constituents:
cinnamaldehyde and trans-cinnamaldehyde (Cin),eugenol

Uses:
Ground cinnamon provides a gentle exfoliating action as your rub the soap bar between your hands. Disinfectant: Cinnamon possesses antibacterial properties, which could help to clear acne and skin blemishes. The spice has also shown to speed up wound healing.

8)Fennel oil:



Geographical source:
Fennel is obtained from the dried ripe fruits of Foeniculum vulgare. It is indigenous to Mediterranean countries and largely cultivated in Romania, Russia, Germany, France, India, and Japan.
Chemical constituents:
trans-anethole (31.49%), 2-pentanone (25.01%), fenchone (11.68%) and benzaldehyde-4-methoxy (8.01%).
Uses:
Helps Heal Wounds. ...
Reduces and Prevents Spasms in the Gut. ...
Contains Antioxidants and Antimicrobial Characteristics. ...
Relieves Gas and Constipation. ...
Treats Digestive Issues. ...
Aids in Weight Loss.

Pharmacological activity:
1)Antimicrobial
The antimicrobial activity of essential oil of Vitex negundo Linn leaves was tested against pathogenic micro organisms such as S.aureus, E.coli, K. pneumoniae, B.substilis, M.luteus and candida albicans and compared with the standard the essential oil showed good antimicrobial activity .
2)Analgesic and anti- inflammatory
The analgesic activity of Vitex negundo Linn leaf extract was carried out using acetic acid writhing test to study the peripheral analgesic effect and central analgesic effect was studied using tail immersion test. The anti- inflammatory activity of Vitex negundo Linn leaf extract was studied by using models carrageenin- induced / paw odema for acute

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inflammations and carrageenin- induced granuloma for sub acute inflammations. Isolated rat uterus was used to study involvement of prostaglandins in the analgesic and anti-inflammatory activity of the leaf extract

3)Anti -bacterial activity:

Honey has excellent antibacterial efficacy against MRSA and a variety of Pseudomonas, which are often associated with wound and burn infections (Hazrati et al. 2010).

4)Antibacterial and Wound Healing Effects of Honey

Different clinical trials and in vitro studies have reported broad-spectrum antimicrobial properties of honey [58]. It was reported that honey constrains the growth of pathogenic strains such as Streptococcus pyogenes, Streptococcus typhi, Staphylococcus aureus, coagulase-negative Streptococcus and E.coli, and species [59]. It also diminishes the growth of infecting strains such as Pseudomonas aeruginosa, Acinetobacter baumannii, and Klebsiella pneumonia in full thickness burn wound in rats.

5)Anti-Inflammatory Effects of Honey

Inflammation is the intricate biological response of vascular tissues to detrimental stimuli. It is a defensive way of response shown by the tissues and organism to remove the pathogens or stimuli which are the cause of injury. Inflammation is classified into two classes: acute and chronic inflammation. Acute inflammation is an early retort of the body towards stimuli.

6)Antibacterial –

Carvacrol and terpene are the antibacterial agents present in this remarkable plant. Sesquiterpene B-caryophyllene also severs the same purpose. This constituent is FDA approved food additive which is naturally present in Tulsi. It helps keeping the body safe from bacterium that causes illness.

7) Anti-inflammatory

Rosmarinic acid also is a good source of anti-inflammatory along with being an antioxidant. Pegenin is one more compound available in the composition serving the same function. Apart from these two, the most important anti-inflammatory driving force in Tulsi is 'eugenol'. It is main ingredient responsible for controlling the blood sugar levels in the body. It rigs the beta cell function of the pancreas and as a result augments the insulin secretion.

REFERENCES

[1]. Biswas NP, Biswas AK. Evaluation of some leaf dusts as grain protectant against rice weevil Sitophilus oryzae (Linn.) Environ Ecol. 2005;23:485–8.
[2]. Chatterjee, Gautam (2001). Sacred Hindu Symbols. Abhinav Publications. pp. 93. ISBN 9788170173977.Simoons, pp. 17-18.
[3]. Alam, M.I. and Gomes, A. (2003): Snake venom neutralization by Indian medicinal plants (Vitex negundo and Emblica officinalis) root extracts. Journal of Ethnopharmacology. 86: 75-80.
[4]. Arora, V., Lohar, V., Singhal, S.and Bhandari, A. (2011): Vitex negundo - A Chinese Chaste Tree. International Journal of Pharmaceutical Innovations., 1(5): 9- 20.
[5]. Aswar, P.B., Khadabadi, S.S., Kuchekar, B.S., Rajurkar, R.M., Saboo, S.S. and Javarkar, R.D. (2009): In vitro evaluation of anti-bacterial and anti-fungal activity of Vitex negundo (Verbenaceae). Ethnobotanical Leaflets. 13: 962-967.
[6]. Au, D.T., Wu, J., Jiang, Z., Chen, H., Lu, G. and Zhao, Z. (2008):Ethnobotanical study of medicinal plants used by Hakka in Guangdong, China. Journal of Ethnopharmacology. 117 : 41-50.
[7]. Avadhoot, Y. and Rana, A.C. (1991): Hepatoprotective effect of Vitex negundo against carbon tetrachloride induced liver damage. Arch. Pharm. Res. 14(1): 96-98.
[8]. Bast F, Rani P, Meena D. Chloroplast DNA phylogeography of holy basil (Ocimum tenuiflorum) in Indian subcontinent. ScientificWorldJournal. 2014;2014:847–482
[9]. Singh N, Hoette Y, Miller R. Tulsi: The Mother Medicine of Nature. 2nd ed. Lucknow: International Institute of Herbal Medicine;2010. pp. 28–47.

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[10]. Bandara, Thushari, Inoka Uluwaduge, and E. R.Jansz. 2012. "Bioactivity of Cinnamon withSpecial Emphasis on Diabetes Mellitus: AReview." International Journal of Food Sciencesand Nutrition 63(3): 380–86.
[11]. Couturier, K. et al. 2010. "Cinnamon ImprovesInsulin Sensitivity and Alters the BodyComposition in an Animal Model of theMetabolic Syndrome." Archives of BiochemistryandBiophysics501(1)158–61.http://dx.doi.org/10.1016/j.abb.2010.05.032.5. Dutta, Anindita, and Anindita Chakraborty. 2018
[12]. Kumari, Reshma, and Sanjay Kumar. 2019."Cinnamomum: Review Article of Essential OilCompounds, Ethnobotany, Antifungal andAntibacterial Effects." Open Access Journal ofScience 3(1): 11–15.
[13]. Mahdi, Montadher Ali, Mustafa TahaMohammed, Abdulkadir Mohammed NooriJassim, and Awatif I. Mohammed. 2018."Phytochemical Content and Anti-OxidantActivity of Hylocereusundatusand study oftoxicity andtheability Ofwoundtreatment." PlantArchives 18(2): 2672–80.
[14]. 2012hanrahan c (2005) Fennel, in Gale Encyclopedia of Alternative Medicine, available at: http://www.encyclopedia.com/topic/fennel.aspx [accessed March 2012].
[15]. harborne jb and saleh nam (1971) Flavonol glycoside variation in fennel, Foeniculum vulgare, Phytochemistry 10(2): 399–400.
[16]. harborne jb, heywood vh and williams ca (1969) Distribution of myristicin in seeds of the Umbelliferae, Phytochemistry 8(9): 1729–32
[17]. harries n, james kc and pugh wk (1978) Antifoaming and carminative actions of volatile oils, Br. J. Surg., 2: 171–7
[18]. iten f and saller r (2004) Fennel tea: risk assessment of the phytogenic monosubstance estragole in comparison to the natural multicomponent mixture, Forsch Komplementarmed Klass Naturheilkd, 11(2): 104–8
[19]. Marzoug HNB, Romdhane M, Lebrihi A et al. Eucalyptus oleosa essential oils chemical composition and antimicrobial and antioxidant activities of the oils from different plant parts steam, leaves, flowers and fruit. 2011; 16(2):1695-1709.
[20]. Anonymous. The Wealth of India Raw materials CSIR, New Delhi. 2003; (3):211-213.
[21]. Sastri BN. The Wealth of India A Dictionary of India Raw materials & Industrial Products. Raw materials, Council of Scientific & Industrial Research, New Delhi. 2002; (5):203-204.
[22]. Fresquet Febrer JL. Eucalyptus globulus & medicine. Med Hist. 1995; (58):1-16.
[23]. javaid A, Samad S. Screening of allelopathic trees for their antifungal potential against Alternaria alternate strains isolated from dying-back Eucalyptus spp. Nat Prod Res. 2012;(26):697-702.
[24]. Shah Gagan, Bajaj Jaideep, Soni Varinder et al. Eucalyptus Genus: A Review. 2016; 10(10):609-617