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Review Article

HERBAL DRUG AS AN ANALGESICMonali Choudhari^{1*}, Gawade Archana², Priti Pal³, Akshay Harihar⁴, Nikita Jadhav⁵,
Sonali Kawade⁶, Bhavna Kokane⁷¹Department of Pharmaceutical Chemistry, K.S.S.COP.Shikarapur, Shirur, Pune, 412208.**Article Received:** September 2019 **Accepted:** October 2019 **Published:** November 2019**Abstract:**

The substances which are used to relieve pain without losing consciousness are called as analgesics. The word Analgesic is derived from Greek –An-“without” and algos-“pain”. Analgesic drugs are obtained from various sources, like natural analgesics, semi synthetic analgesics and synthetic analgesics. Some examples of natural analgesics are opioid analgesics, *Alo vera barbedenis*, *Glycyrrhiza glabra*, *Cinnamomum Camphora*, *Zingiber Officinale*, *Eugenia Caryophyllata*. These drugs act on the central nervous system and peripheral nervous system. Information about various types of herbal analgesic is described in the current review article.

Keywords: Analgesic, central nervous system, peripheral nervous system, herbal drug.**Corresponding author:****Monali Choudhari,**Department of pharmaceutical chemistry, K.S.S.COP.Shikarapur,
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INTRODUCTION:

The international association for the study of pains widely used definition, defined as an unpleasant surgery and emotional experience associated with actual or potential tissue damage or described in terms of such damage.

There are mainly three type of pain as follows:

1. Physical
2. Psychological
3. Psychogenic

On the basis of duration of pain. It can be divided into two main types:

1. Acute pain
2. Chronic pain

1. Acute pain:

Pain that cures quickly is acute pain its duration is less than 3-6 months. Acute pain is occurs due to damage to tissue and it is short term pain and can be easily identified due to inflammation. Acute pain is directly related to soft tissue damage like sprained ankle. Acute pain is relatively more sharp and sever than chronic pain.

Example- Bums, cuts, bee sting, broken bones, dental works, surgery & child birth.

2. Chronic pain- Chronic pain is any pain that lasts for more than three months. The most common sources of chronic pain include low back pain, headache and arthritic pain. It can cause significant psychological and emotional trauma and often limits an individual's tally functional ability. Chronic pain is along term pain and it difficult to treat and also harder than the acute pain.

Examples-Rheumatoid arthritis, diabetes, cancer, multiple sclerosis, fibromyalgia, AIDS and neuropathic pain. Analgesics is a medication used to treat the pain.

Analgesics- An analgesics or painkiller is any member of the group of drugs used to achieve analgesia or relief from pain. Analgesic is a Greek word of an ("without") and Algos ("pain").

It acts as central nervous system and peripheral nervous system.

Analgesic are also known as anesthetic, anodyne and painkiller.

Cyclo-oxygenas 2 (cox-2)enzyme, prostandins (from damage cell)produce pain

The non steroidal anti inflammatory drugs are used to control the pain. Their pain killing action is fast but they having many side effects like stomach dysfunction skin rashes and liver damage.NSAID are more expensive than herbals.And also causing lots of adverse effects.To overcome this side effect and cost. We have to use natural medications such as herbs to relief from pain.(Theken kn,2018).

Herbal active pharmaceutical ingredients reduces pain without any side effect.Herbal drugs having potential to relief from pain without forming any risk of addiction of other painkillers. Flavonoids are present in the herbs and they blocks the cyclooxygenase enzyme and tannins. The analgesic activity of herb is due to iridoid and flavonoid chemicals.Researchers of Guelph University discover the activity of Cannabis pain relieving molecules, which are 30 times more powerful Anti-inflammatory activity than the Aspirin. That Two important Phytochemicals of Cannabis are Cannaflavin A and Cannflavin B. This phytochemicals are safe and effective Anti-inflammatory agents. Different diagnosis Herbal Drugs as an analgesic are explained in current review.

HERBAL DRUG**1. Acasia-**

Scientific name- Acasia (Martius 1829) Family- Fabaceae

Tribe- Acacieae

Order- Fabales

Area of cultivation- India, Arebia, Sri-lanka, Africa, Egypt.

Category- Analgesic, Anti-inflammatory, Anti-platelet activities, antipyretic.



Pic.No.1

Acacia also known as wattles or acasia. It is a large genus of shrub and tree. The useful part of acasia are leaves, bark, gum, pods. Pasre of acasia leaves ash and coconut oil is used to preparing the ointment in treatment of itch. The leaves and gum are used for prepration of gargles for sore throat and spongy gums.

2. Adulsa-

Scientific name- *Adhatoda vasica*.
 Family- Acanthacea
 Genius- *Justicia*
 Area of cultivation- Kerla
 Category- Analgesic, Expectorant,
 Anti- histaminic, Bronchodilator.

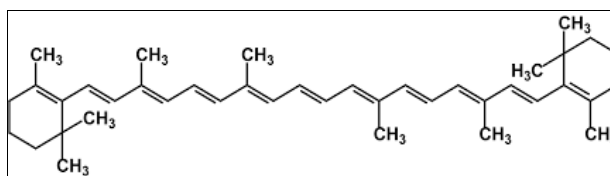


Pic.No.2

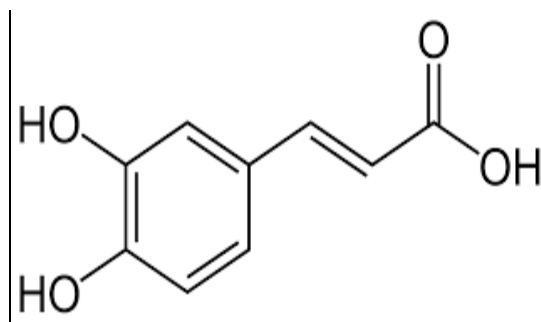
It mainly grows up to 1.5 meter in height. It has mainly two specific , such as *Adathoda vasica* and *Adathoda beddomei*. Its leaves contain alkaloid vasicine which plays an important role against cough, chronic bronchitis and asthma. It is remedy for bleeding gums, peptic ulcers. It reduce growth of cancer tumors and lowering high cholesterol level and maintains blood pressure.

3. Guava leaf-

Scientific name- *Psidium guajava*.
 Family- Myrtle
 Area of cultivation- Allahabad, India,
 U.P, Punjab
 Genus- *Psidium* l
 Category- Analgesic, antioxidant,
 anti- inflammatory, antibacterial



Carotenoid



Caffeic acid

It occurs in two varieties i.e. white guava and pink guava. White guava contains sugar, starch and vitamin-c. And pink guava contains organic pigment called carotenoid. Womens experience dysmenorrea a symptom of menstruation like painful stomach cramps. The recent research determines that study in 197 women observed that taking 6mg of guava leaf extract daily that reduces the pain intensity. Guava leaves improves the digestion and helps in weight loss. Guava leaves have an anticancer properties. A test-tube study found that oil of guava leaf is four time more effective than anticancer drugs This species is used commonly to treat gastrointestinal and respiratory disturbances and as an anti-inflammatory Chemical constituents- Protocatechuic ,Ferulic acid ,Ascorbic Acid,Caffeic acid and Quercetin.

4.Turmeric-

Scientific name- *Curcuma longa*
Family- Zingiberaceae
Genus- *Curcuma*

Species- *S.longa*

Area of cultivation-

Category- Analgesic, antioxidant, anti-inflammatory .Curcumin in turmeric is promotes the healing. Clinical studies determined that turmeric has pain reducing activity and help to cure inflammation of rheumatoid arthritis, ulcerative colitis, stomach ulcers.

6. Curry leaves-

Scientific name- *Murraya koenigii*

Family- Rutaceae

Genus- *Murraya*

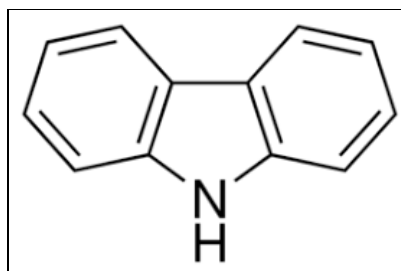
Species- *M.koenigii*

Order- Sapindales

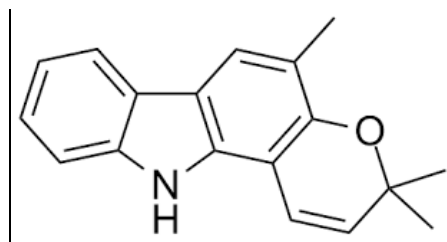
Area of cultivation- India

Chemical constituents:

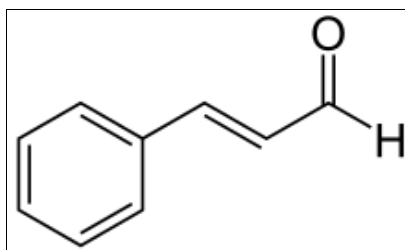
It contains cinnamaldehyde and numerous carbazole alkaloid girinimbin and mahanine.



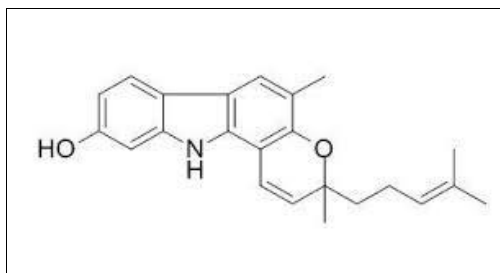
Carbazole alkaloids



Girinimbin



Cinnamaldehyde



Mahanine.

It contains anti disease properties. Curry leaves helps in treatment of acidity and ulcer. It acts as painkiller against the stomach aches. It can heal wound and burns. It sharpens the memory and helps in relieve morning sickness and nausea and good for eyesight's

8.Capsaicin:

scientific name-capsaicin, chilli, pepper gel.

family-capsicum.

genus-capsicum(solanaceae)

species-capsaicum.

order-capsaicum annum L.

area of cultivation-Maharastra, andhra-pradesh, karnatka, orisa.

category-analgesic, anti-infflametory, anti-rhinitic, anti-cancer and anti-obesity.

chemical constituent-(8-methyl-n-vanyillyl-6-non inamide)

formula-C₁₈H₂₇NO₃.

Capsaicin is active component is obtain from chilli pepper. Our nerves contain pain

transmitter which is reduced by capsaicin. Capsaicin useful in treatment of osteoarthritis.

Capsaicin must kept away from eyes, mouth and open wounds because it lead to irritation. A natural pain killer indorphins is released by brain when we eat chilli. Gastric pathogen helicobactor pylory which causes ulcer inhibited by capsaicin from chilli.

9.Papaya:

Scientific name-carica –papaya

Family – caricaceae

Order- Brassicales

Genus- Carica

Species- C.papaya

Area of cultivation- southern mexico,america,india,brazil.

Category-analgesic,anti-oxidant,anti-infflamatory.

Chemical constituent: papain, carpaine, chymopa,beta-carotene, chitinase, DPPH, vit-c and vit-E. Papaya contain enzyme papain, which is anti-infflantory in nature,it reduce pain and irritation of joints. 345 amino acids recidues are present in papain(precursor protein).It play an important role in fighting against inflammation by increases the production of cytokinase with the help of enzyme papain. It may help in protection of eye. Papaya remove dead skin and moisture it.

10.Azadirachta indica:

Scientific name- Azadirachta indica

Family- meliaceae

Genus- azadirachta

Species- A.indica

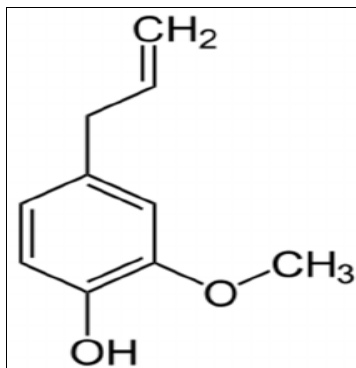
Order- Sapindales

Area of cultivation- India, tamilnadu, bengal, south east, asia, island.

Category- analgesic, anthelmintic, anti-fungel, anti-diabetic,anti-bacterial, anti-viral, sedetive.

Chemical constituent: Mellantrol, nimbian azadirachtin, salannin, nimbolide, chlorophyll. Azadirachta Indica is also known as neem or neem tree. Neem oil is widely used for healthy hairs improve liver function and balancing level of blood

sugar. It helps in treatment of skin diseases like eczema and psoriasis etc. It is used in preparation of cosmetics such as soap, shampoo, creams and formulation of tooth pastes and also balms. It treats plague and gingival inflammation.

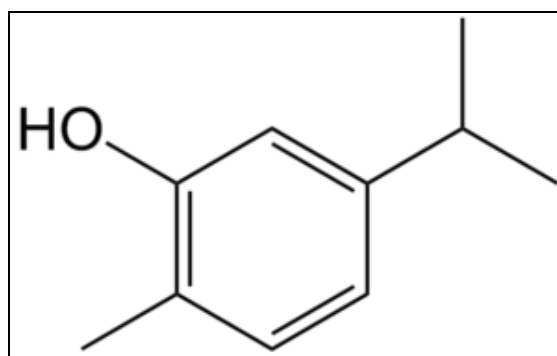


Lavender Essential Oil: it helps to relieve pain naturally by inhaling. Also helps to sleep and ease anxiety. It contains Eugenol (2-methoxy-4-propenylphenol) is a phenylpropanoid found as the constituents of *Eugenia Aromatica* Baill (clove oil) being commonly used as analgesic and anti-inflammatory in dental procedure.

receptors in the brain called as opioid, which are involved with sensation of pain. Oil reduces pain in people experiencing opioid withdrawal.

Rosemary essential oil: This oil is collected from *Rosmarinus officinalis* L. It helps to relieve pain and headache. Also used to treat body and muscle pain. It is very useful in seizures, reduces inflammation, relaxes smooth muscle and boosts memory. The herbs act on

Peppermint essential oil: Peppermint oil is obtained from the *Mentha Piperita* L. plant. It has anti-inflammatory, antimicrobial, and pain-relieving effects. The active constituents of peppermint oil are Carvacrol, Menthol, and Limonene. This oil is also used topically for pain by rubbing on the painful area. One review notes the peppermint oil used to relieve painful spasms and problems associated with arthritis. It also relieves tension headaches.



carvacrol

REFERENCE:

1. Kumar, M., Dandapat, S., Kumar, A. and Sinha, M.P., Determination of Nutritive value and mineral elements of five-leaf chastetree (*Vitex negundo* L.) and Malabar Nut (*Adhatodavasica* Nees), *Academic Journal of Plant Sciences*, 2013; 6(3): 103-108. [http://www.idosi.org/ajps/6\(3\)13/1.pdf](http://www.idosi.org/ajps/6(3)13/1.pdf)
2. Kumar, M., Dandapat, S., Kumar, A. and Sinha, M.P. Anti typhoid activity of *Adhatodavasica* and *Vitex negundo* Persian Gulf Crop Protection, 2013; 2(3): 64-75. http://corp.protection.ir/files_site/paperlist/Journal2-3-130906213336.pdf
3. Vane JR, Bolting RM. New insights into the mode of action of anti-inflammatory drugs. *Inflamm Res* 1995; 44: 1-10

4. Perianayagam JB, Sharma SK, Pillai KK. Anti-inflammatory activity of *Trichodesma indicum* root extract in experimental animals. *J Ethnopharmacol* 2006; 104: 410–4.
5. *Psidium guajava* L. USDA, NRCS. 2011. The PLANTS Database (<http://plants.usda.gov>, April, 2011). National Plant Data Team, Greensboro, NC 27401-4901 USA
6. Gutiérrez RM, Mitchell S, Solis RV. *Psidium guajava*: a review of its traditional uses, phytochemistry and pharmacology. *J Ethnopharmacol*. 2008; 117(1): 1-27. 18353572
7. Dorenburg, Andrew and Page, Karen. *The New American Chef: Cooking with the Best Flavors and Techniques from Around the World*, John Wiley and Sons Inc., 2003(2) abc Kamatou, G.P.; Vermaak, I.; Viljoen, A.M. (2012). "Eugenol--from the remote Maluku Islands to the international marketplace: a review of a remarkable and versatile molecule". *Molecules*. 17(6): 6953–81
8. Adaramoye O. A., Medeiros I. A. 2008 Involvement of Na(+)-Ca(2+) exchanger in the endothelium-independent vasorelaxation induced by *Curcuma longa* L. in isolated rat superior mesenteric arteries. *J Smooth Muscle Res* 2008 44(5): 151–8. [PubMed]
9. Aggarwal B. B., Ichikawa H., Garodia P. et al. From traditional Ayurvedic medicine to modern medicine: Identification of therapeutic targets for suppression of inflammation and cancer. *Expert Opin Ther Targets*. 2006; 10: 87–118. [PubMed]
10. "Murrayakoenig information from NPGS/GRIN". www.ars-grin.gov. Retrieved 2008-03-11.
11. The results of Buchholz's and Braconnot's analyses of *Capsicum annuum* appear in: Pereira, Jonathan (1854). *The Elements of Materia Medica and Therapeutics*. 2 (3rd US Ed.). Philadelphia, Pennsylvania: Blanchard and Lea. p. 506. 2) Biographical information about Christian Friedrich Buchholz is available in: Rose, Hugh J.; Rose, Henry J.; Wright, Thomas, eds. (1857). *A New General Biographical Dictionary*. 5. London, England. p. 186.
12. Sutarno H, Hadad EA, Brink M (1999). "Zingiber officinale Roscoe". In DeGuzman CC, Siemonsma JS (eds.). *Plant resources of South-East Asia*: no. 13: Spices. Leiden (Netherlands): Backhuys Publishers. pp. 238–244
13. ab "Zingiber officinale Roscoe". Kew Science, Plant of the World Online. Royal Botanic Gardens, Kew. 2017. Retrieved 25 November 2017. Papaya 1) "Carica papaya L." U.S. National Plant Germplasm System. 9 May 2011. Retrieved 5 September 2017. 2) ^ ab "Papaw". Collins Dictionary. n.d. Retrieved 2014-09.
14. In North America, papaw or pawpaw usually meanst he plant belonging to the Annonaceae family or its fruit. Ref.: Merriam-Webster's Collegiate Dictionary (2009), published in United States
15. *Vitex negundo* Linn. Fact Sheet (PDF). Bureau of Plant Industry, Department of Agriculture, Republic of the Philippines. 2) abc "Vitex negundo L. - Lagundi". *Prosea Herbal Technology Catalog*. Archived from the original on December 21, 2012. Retrieved September 7, 2011. 3) ^ Vitex negundain Dr. K.M. Madkarni's *Indian Materia Medica*; Edited by A.K. Nadkarni, Popular Prakashan, Bombay, 1976, pp: 1278-80
16. Barstow, M.; Deepu, S. (2018). "Azadirachtaindica". *The IUCN Red List of Threatened Species*. 2018: e.T61793521A61793525. doi: 10.2305/IUCN.UK.2018-1.RLTS.T61793521A61793525.en. Retrieved 9 May 2019.
17. ab "Azadirachtaindica". World Checklist of Selected Plant Families (WCSP). Royal Botanic Gardens, Kew. Retrieved 14 December 2016 – via The Plant List.
18. Chanamai, R.; Horn, G.; McClements, DJ (2002). "Influence of Oil Polarity on Droplet Growth in Oil-in-Water Emulsions Stabilized by a Weakly Adsorbing Biopolymer or a Nonionic Surfactant". *Journal of Colloid and Interface Science*. 247(1): 167–176. Bibcode: 2002JCIS..247..167C. doi: 10.1006/jcis.2001.8110. ISSN 0021-9797. PMID 16290453. 2) ^ abc Sarkic, Asja; Stappen, Iris (12 January 2018). "Essential oils and their single compounds in cosmetics: A critical review". *Cosmetics*. 5(1): 11. doi: 10.3390/cosmetics5010011. ISSN 2079-9284
19. "Rosmarinus officinalis". Germplasm Resources Information Network (GRIN). Agricultural Research Service (ARS), United States Department of Agriculture (USDA). Retrieved 2008-03-03. 2) ^ abcdefghijk "Rosmarinus officinalis (rosemary)". Centre for Agriculture and Bioscience International. 3 January 2018. Retrieved 13 July 2018
20. Gutiérrez RMP, Mitchell S, Solis RV. **Psidium guajava**: a review of its traditional uses, phytochemistry and pharmacology. *J Ethnopharmacol*. 2008; 117: 1–27. doi: 10.1016/j.jep.2008.01.025.
21. Debra Rose Wilson, PhD, MSN, RN, IBCLC, AHN-BC, CHT Last reviewed Wed 27 February 2019 Last reviewed Wed 27 Feb 2019 By Lana Burgess .
22. Rita de Cássia da Silveira e Sá,¹ Tamires Cardoso Lima,² Flávio Rogério da Nóbrega,³ Anna Emmanuela Medeiros de Brito,³ and Damião Pergentino de Sousa^{3,*}