



Review article

Pharmacological Potential of Curcuma Caesia

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Abstract

Indian medicinal plants are known to be an enormous source of many pharmacologically active principles and compounds for various diseases used domestically. The Kali haldi and native plants of northeast are known as *Curcuma caesia*. It is upright perennial herb with an intense aromatic odour that commonly used in medicine. This plant reported that it has anti This plant stated that it has an activity of antimicrobial, antioxidant, anti-asthmatic, locomotive antidepressant, anti-inflammatory. This plant has direct distinct phytochemistry and pharmacological value for medicinal plants products. Different papers have rectified that *Curcuma caesia* has been sufficient research methods for validating the conventional uses of open door near future for more possible medicines.

Introduction

Curcuma is enormous sort which has a place with zingiberaceae family. It Comprise of 70 species which is appropriated as wild and developed plants mainly southeast Asia. The medicinal value of curcuma genus is considerable significance and *Curcuma caesia* has long been used by numerous tribal groups. This plant is native to North East India and due to its high medicinal properties,

the rhizomes of black turmeric have high economic value. The plants rhizome is said to be effective in the treatment of various diseases such as piles ,leprosy, asthma, cancer, epilepsy, fever, bruises, fertility, toothache, vomiting etc.

(Muhammad Shahinozzaman *et al.*,2013).

In Madhya Pradesh ,the plant is viewed as very auspicious and accepted that an individual who keeps it wont ever have a money shortage.

The forest department of India is currently deemed to be vulnerable and endangered because of natural diversity is widely damaged by many human activities, such as over exploitation for traditional medicine purposes, industrialization and urbanization (Arulmozhi DK *et al.*, 2006). Nature, the most effective source of chemical and biological properties, Warehouse of bioactive chemical compounds is most motivating one.

In fact the green spring on surface of earth produces and exceptional. Source for discovering new molecules of medicines. The new biological knowledge. Active metabolites include the enhancement of substance and main structures. Fresh Formulations for pesticides, pharmaceuticals. Present priority on drug discovery and development. On scanning for anti cancer medicinal compounds from nature, As well as other biological functions, antifungal ant tuberculosis, anti parasitic, antibacterial and anti-inflammatory. High performance screening of small chemicals molecules in plants for given drug target can if only metabolites are available in database. This should be achieved.

Taxonomical Hierarchy

Kingdom: Plantae

Phylum: Tracheophyta Sinnott

Subphylum: Euphyllophytina

Class: Magnoliopsida

Order: Zingiberales

Family: Zingiberaceae

Subfamily: Zingiberoideae

Genus: Curcuma

Species: *C. caesia* Roxb

Pharmacological Activities:

The rhizomes' therapeutic applications derive from bioactive ingredients.

Bioactive foods include curcuminoids. The liability for ant oxidative and anti-inflammatory ingredients such as curcuminoids is bioactive (Prasanthi & S Hara *et al.*, 2015). Wound, crying, hypoglycaemia, anticoagulant properties, Antimicrobial activities The exhibit of curcuminoids antioxidants and free radical scavenging properties activity. In rhizomes, the most bioactive substances. These rhizomes contain many different constituents along with alkaloids, amino acids, tannins, sugars, steroids, proteins, as well these are used as an herb for pneumonia, cough, asthmatic, Fever, epilepsy, Cancer. The pungent smell is from this plant is due to essential oil Curcuma *caesia*'s new rhizome paste (Mehendra *et al.*, 2014).

The dry powder was added after the snake bite and scorpion bite. Known for combining with *Andrographis paniculata* Wall seed powder, applied after the bite of an insect and snake.

Physicochemical and phytochemical Activity of non-aerial parts of curcuma caesia:

(Milan *et al.*, 2019) had evaluated rhizome extracts and its solvent fractions for preliminary studies with non-aerial parts of *Curcuma caesia* and after qualitative analysis found different phytoconstituents like alkaloids, flavonoids, saponins, terpenoids, steroids, proteins and these extracts are bioactive against various disorders. Alkaloids protect against chronic disease. saponins protect against antibiotic properties. Steroids for central nervous system. **Fig.2**

S.N	Phytochemicals/ Solvent Extracts	Pet. Ether	Chloroform	Ethyl acetate	Acetone	Ethanol	Methanol	Water
1	Alkaloids	-	-	+	+	+	+	+
2	Cardiac Glycosides	-	+	+	+	+	+	-
3	Carbohydrates	-	+	+	+	+	+	+
4	Flavonoids	-	+	+	+	+	+	-
5	Phenols	-	+	-	+	+	+	+
6	Phlobatannins	-	-	-	-	-	-	-
7	Proteins	+	+	-	+	+	+	-
8	Saponins	+	+	-	+	+	+	+
9	Sterols	+	+	+	-	-	+	+
10	Tannins	-	-	-	-	-	+	+
11	Terpenoids	+	+	-	+	+	+	-
12	Quinones	+	+	-	+	-	+	-
13	Oxalates	-	-	-	-	-	-	-

Fig.2 Phytochemical evaluation of rhizome of *Curcuma caesia*.(Milan Hiatt et al.,2019)

Biological activities:

Anti Inflammatory Activity:

Proteins isolated from extraction of aqueous Soxhlet rhizome. There was substantial antioxidant activity in *Curcuma caesia*, which was found to be stable with sun. When evaluated on the paw of carrageenan rat this system demonstrated a high dose of anti-inflammatory activity with 100mg/kg (Angel et al., 2012).

Antioxidant Activities:

Curcuma caesia shows the free radical scavenging operation of *Curcuma caesia* rhizome extracts which has been measured as after decolorizing activity DPPH electron trapped which is unpaired electron of DPPH. A different free radical scavenging behaviour was seen by fractions. Its is ethanol fraction 86.914%

decrease at concentration of 800. Like as well crude extract of *Curcuma caesia* is shown in methanolic, ethyl acetate and aqueous with 83.104% and IC value is 50 with different ranges in order for ascending sequences >441.90µg/ml (MECC) >561 µg/ml (EAECC) >591 µg/ml (AECC), the lowest being the highest antioxidant activity (Priyadarshini Devi) Fig.3

Analgesic Activity:

Various extracts obtained by *Curcuma caesia*, The rhizomes of *Curcuma caesia* have analgesic and antipyretic function. The analgesic and antipyretic functions of plant extracts were tested using chemical model of hyperthermia caused by acute pain and brewers yeast in rats. Twisting and pyrexia have been observed in rats at doses between 250 and 500 mg/kg body weight. Both the plants had analgesic and an analgesic effect.

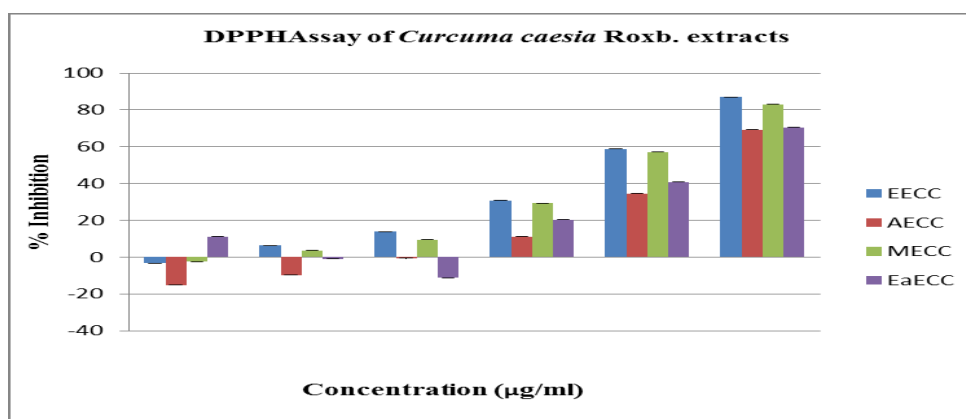


Fig. 3 EECC= Ethanolic extract of *Curcuma caesia* Roxb., MECC: Methanolic extract of *Curcuma caesia* Roxb., EaECC= Ethyl acetate extract of *Curcuma caesia* Roxb., AECC: Aqueous extract of *Curcuma caesia* Roxb. (Priyadarshini Devi.,2012)

Antimicrobial activity:

The natural oil extracted from Curcuma C. rhizomes. Antimicrobial activity was tested against *Bacillus subtilis*, *Corynebacterium diphtheria*, *Staphylococcus aureus*, *Salmonella typhi*, *E. coli*, *Shigella*, *Aspergillus niger*, rich in curcumene, ionone and turmerone. *Fumigatus*, *Curvularia lunata* by method of paper disc diffusion. (Garg). The isolated oil from *Curcuma caesia* rhizome had elevated amounts of activity of antioxidants, antibacterial and even inhibit gram positive such same as *S. Aureus* and *Bacillus Substillis* and gram negative *E. coli* bacteria. Basic essential oils of monoterpene consistency prospective mixtures and different aliphatic hydrocarbons are antimicrobial compound sources (Angel G.R & Vimla *et al.*, 2012).

Antiasthamatic activity:

Antiasthamatic activity had evaluated on *Curcuma caesia* was tested for its relaxing effect and various antagonist receptors and enzyme inhibitor play role in calcium regulation investigated in relaxed carbachol effect of rabbit aorta CC concern and

existence of antagonist such as for example, glibenclamide, 2', 5'-dideoxyadenosine, a-chymotrypsin, L-NNA and methylene blue, didn't influence the log fixation loosening up reaction bends of total CC concentrate to carbachol (1 µM)-induced pre-contraction. (Arulmozhi *et al.*,2006).

Conclusion:

The present study stresses that the perception of curcuma plant Roxb. *Caseia*. This research found herbal products can be used efficient as modern medication and synthetic substance, still thought to be healthy. The plants rhizomes, extracts have various bioactive properties such this plant has smooth muscle relaxant, antiulcerogenic, biological process such as regulation of antilminitic, anxiolytic and CNS depressant's and many other activities. In this study, the pharmacological studies mentioned with validated medicinal benefit of *Curcuma caesia*. The research supports *C. Caesia* can be a medicine.

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