

**HISTORICAL BACKGROUND OF CANNABIS SATIVA: A REVIEW****Vishal Bhosale<sup>1\*</sup>, Swapnil Shinde<sup>2</sup>, Vaibhav Bhosale<sup>2</sup> and Akanksha Shinde<sup>3</sup>**<sup>1</sup>Genba Sopanrao Moze College of Pharmacy, Wagholi, Tal-Haveli, Pune University, India.<sup>2</sup>Baramati College of Pharmacy, Baranpur, Tal- Baramati, Dr. Babasaheb Ambedkar Technological University, India.<sup>3</sup>LSDP College of Pharmacy, Mandavgan Pharata, Tal- Shirur, Pune University, India.**ABSTRACT**

Plant have every time been common source of medicament. Either the form of conventional preparation or as pure lively principle. These cannabis plant (*cannabis sativa* L.) have a large history as recreational drug. But is as well as part of traditional medicine in a several culture. The product of cannabis plant such as (marijuana, hashish, and hash oil) have a large history of use as both medicinal agent and intoxicant. Above the last some years there have a been active debate as regards the medicinal aspects of cannabis. It is contain approximately 60 different cannabinoid counting tetrahydrocannabinol (THC, dronbinol) cannabinol, cannabidiol and cannbigerol, cannabichromene. It is a therapeutic potential is calm in the district of muscle relaxation and

cannabinoids are presently for the use of treatment of a anorexia, bronchia, asthma, ellipsy, glaucoma, hypertension and vomiting. There are a two cannabinoids presently licensed for medicinal use. The first is THC (Marinol) is build synthetically and licensed in a USA for a treatment of a nausea following cancer chemotherapy and a appetite enhancement in suffering with AIDS. The second is nabilone, is a complete synthetically derived cannabinoid. It is a licensed in UK for the treat of nausea known as chemotherapy. As a third synthetic cannabinoid, dexanabinol is the phase of 3 clinical trials.

**INTRODUCTION**

Cannabis is known as *cannabis sativa* is also known as Indian hemp. In an Atharva Veda the 'bhang' plant as one of the five secred plants. It has been work as over the ages, source of fiber, food, oil and medicine also. The British Government of India prohibited expending of cannabis resin (charas) in india in the 1930's. Since then the cultivation and utilize of *c.sativa*

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dwindled. This plant is source narcotics and the names in india such as bhang, charas, ganja, marijuana, hashish, weed, grass etc. *Cannabis sativa* L. (*cannabis*) remains the mostly cultivated, produced, trafficked and consumed drug worldwide. In many *cannabis* is used as medicinal purpose. *Cannabis* are discovered in two sub species mainly *cannabis indica*, *cannabis sativa*, these subspecies different their different physical characteristics. This plant have dark green leaves and have higher cannabidiol content. *Sativa*- dominant strain are work taller and have more thin leaves with to its biggest THC content *cannabis*. It is a complex plant with about 426 chemical entities more than 60 are cannabinoid compound. *Cannabis* is firstly recorded in allopathic medical. These are mostly derived from the female plant of *cannabis sativa*. *Cannabis sativa* is used after tobacco and alcohol. *Cannabis* used as smoked in a joint, tobacco may be add as assist burning. Marijuana and hashish is used smoked because of titration of blood levels and the psychoactive effect is easier. *Cannabis* used as acute effect that is psychoactive, mildly euphoric, relaxing intoxication or high, cognitive function. In case of some limited cases, is used as anxiety, panic and paranoia. *Cannabis* contain more than 60 classical cannabinoid (tricyclic dibenzopyran) compound and some are cannabidiol. Cannabichromene, cannabidiol, cannabitol, nitrogenous compounds, amino acids proteins, enzyme, glycoproteins, sugars, hydrocarbons, alcohol, aldehydes, cannabinoid phenol, flavonoids, vitamins this chemical compound are present in *cannabis*. *Cannabis* is very useful plant. Their are many medicinal uses including Epilepsy, Glaucoma, Bronchial asthma, Parkinson disease, Dystonia, Antidepressant, Antimicrobial, 150 million people are smoke *cannabis* this is most popular recreational drugs.<sup>[1,5,6,7,8,9,10]</sup>



**Fig. 1: Cannabis sativa.**

**Biological distribution**<sup>[11]</sup>

Kingdom : Plantae

Phylum : Magnoliophyta

Class : Magnoliopsida

Order : Rosales

Family : Cannabaceae

Genus : Cannabis

Species : Cannabis sativa

**Origin, Distribution and Growth habits**

Cannabis sativa was originally located in western and central Asia. It has been try to develop since ancient times in Asia and Europe. It is expand to new world in past Columbian times. Cannabis sativa have been did out from soil for more than 4000 to 4500 years for different medical purpose enlist above. In India prepared this plant early as 900 BC and discover in India as ayurvedic medicine. In India respectively district cultivation and permitted this plant, district of almora, Garhwal, Nainital and small part of Kashmir. Cannabis seeds takes time to germination 10-12 hours to 8 days. After 3-4 days of shoot up, seed coat break, uncover and roots grow, two circular embryonic leaves cotyledons. Seeding phase takes times last 1-4 weeks and this period of this plant is very on serve in the life cycle of plant, because required maintain humidity light intensity proper soil moisture etc. In vegetative phase grows up and produce new leaves. Flowering phase start after 7-22 weeks.<sup>[3]</sup>

**History**

One of the world's elderly cultured plants is cannabis sativa. Many 19<sup>th</sup> century cannabis after the drug found it Europe during period of a colonial elaboration in Africa and Asia. In the France the psychoactive results of a hashish concentrated of clinical function. Cannabis was played a leader part on the human history. The value of agriculture which start about 10,000 years ago it largely expansion our population and success a species. And it is so known as agricultural revolution. These newest innovations also impact the location and our lives. People were operate these cannabis plant for a large amount of untold number of per years. Hashish's work as a main nutritious food and start to vegetable oil is used to be a gigantic high to at present. Cannabis plant it use for drug intent and medicinal, mind change.<sup>[11]</sup>

## MATERIAL AND METHODS

The Ellora caves are discovered at  $20^{\circ} 1' 25.61''N$ ,  $75^{\circ} 10' 45.86''E$  close by village named as Verul and situated interval of 30 km to North-west Aurangabad city. They are firstly known as a Elur and Elapura to their position nearby hills. In 1983 in Ellora caves announce a world heritage. In 2 km area around 34 caves in Ellora cave North and south. It shows three religion of India i.e Buddhism, Hinduism, Jainism.



**Fig. 2: The general view of the ellora caves.**

Absolute cannabis plant was found to be layer to better its properties and to stop cracking during drying. The higher plaster layers above the inside layer is as well formed from the same root of soil but show up have a slightly high addition of finer sand particles. This Ellora caves layer's are refined light grey color clay plaster. This sample for investigation has been collected from cave No.12. This sample is observed in the laboratory under the magnifying lens, stereo zoom microscope following investigation it was established that this sample is collected from cave No.12 carry heavy pieces of shoots, crushed leaves and single male flower.<sup>[2]</sup>



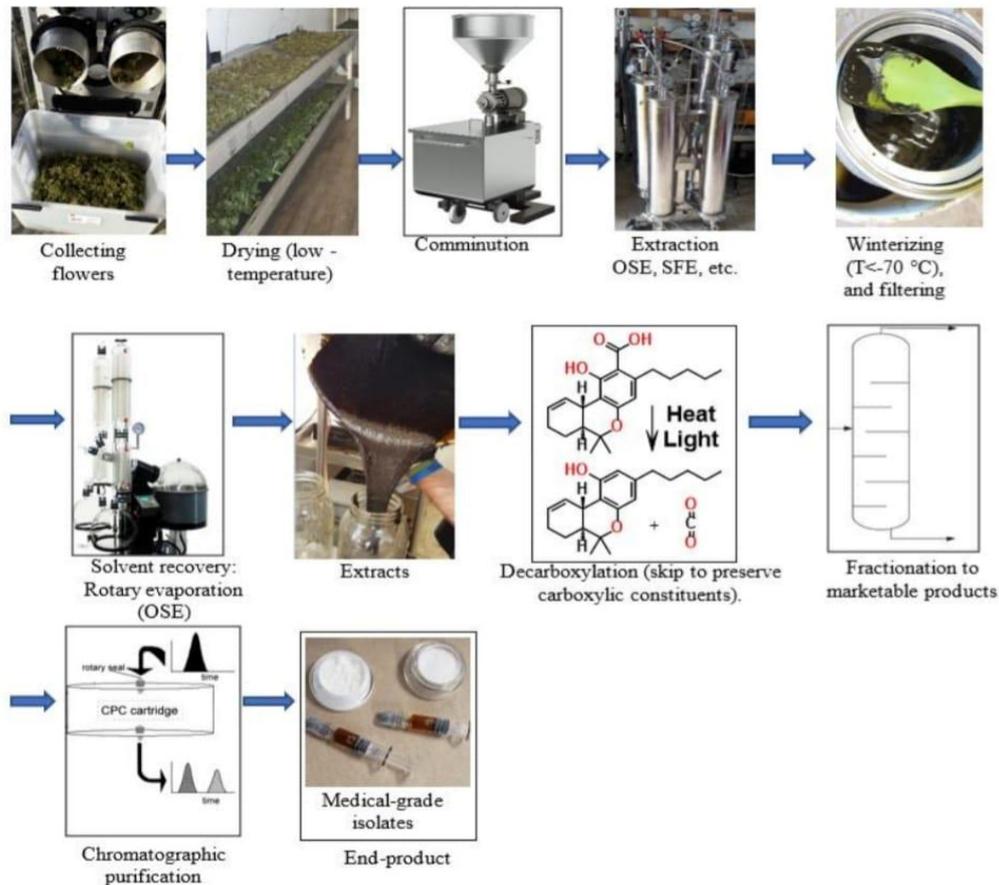
**Fig. 3: Cannabis found the mixed in a earthen plaster of Ellora cave No.12.**

### **Chemical constituents**

The chemical constituents of cannabis sativa containing mostly all of the chemical group. Examples terpenes, flavonoids, nitrogenous compounds etc. Out of this majorly chemical constituents is C<sup>21</sup> terpenophenolic cannabinoids (Elsohly and Slade 2005) In 1980 total 423 compound identify form cannabis sativa (Turner etal 1980) and in 2005 was 489 (Elsohly and Slade 2005) out this 489 compound 70 compounds know as cannabinoids and further classified into 11 categories. Such as Cannabidiol type(7), Tetrahydrocannabinol type(9), Cannabigerol type(7), Cannabichromene type(5), Cannabicyclo type(3), Cannabitrinol type(9), Cannabinol type(7), Cannabinodiol type(2), Cannabie Isoih type(5), Miscellaneous type(14). Other than cannabinoids the other constituents (419) are classified into different chemical group. Such as simple aldehyde(12), hydrocarbons (50), amino acids(18), enzyme(6), sugar and related compounds (34), simple alcohol (7), proteins (3), glycoproteins (2), nitrogenous compounds (27), simple ketones(13), flavonoids (23), lactones(1), steroids (1), simple acids(20), vitamins (1), pigments (2), non cannabinoid phenol(25), element(9).<sup>[3]</sup>

### **Extraction<sup>[1]</sup>**

All over the hemp industry, the term extraction used two different ways. (1) the --trachoma category, in this extraction of cannabinoids and terpenes from trichoma, aim of producing medical grade supplement and (2) the seed category in that of the extraction of fatty acids oral lipids from cannabis sativa L.(Hemp) Seed take place. Following process in cannabinoid/Terpene extraction.



**Fig. 4: Process flow diagram showing downstream processing step required to produce cannabinoids from cannabis sativa L.**

In this figure shows the processing steps have need to produce cannabinoids and terpenes from the hemp flower. Process flow diagram showing the downstream processing step required to produce cannabinoids from cannabis sativa L (hemp)

OSE-organic solvent extraction

SFE-supercritical fluid extraction.

### Basics

Main four processing stages in the hemp industry (variety, cultivation, harvesting and extraction). Cannabis sativa L (hemp) possesses well over 500 natural chemical compounds approximate show that between 30-60% of the total cannabinoid in the Hemp flower of lost somewhere during the extraction or purification process. With CBD alone passing over half of the whole cannabis market, the selection of proper extraction and processing method result in a significant effect on whole process economy.<sup>[1]</sup>

**Uses<sup>[3,4]</sup>****Therapeutic uses of cannabis****1. Pain**

The number of human trials on the use of cannabis sativa(hemp) in acute and chronic pain is limited and the results are equivocal. Noyes et al.<sup>[59,60]</sup> carried out two double-blind placebo-controlled studies with THC. In the first study, 20 patients with cancer pain received oral THC 5, 10, 15,20 and 25 mg and placebo in random number. Significant in pain relief.

**2. Psychiatric conditions, Mood disorders**

Cannabis and cannabinoids taken as antidepressants, anxiolytics, sedatives, hypnotics and as treatment for alcohol and opiate withdrawal syndromes.

**3. Epilepsy**

Cannabinoids have complex actions on seizure activity and exert both anticonvulsant and proconvulsant effects.

**4. Other uses**

In addition, cannabinoid receptor agonists have potential as neuroprotective agents through CB1 receptor-mediated inhibition of glutamate release in the treatment of dyskinesias that is produced by l-DOPA in patients with Parkinson's disease Potential therapeutic applications have also been suggested for CB1 receptor antagonists/ inverse agonists. These include the management of acute schizophrenia and the amelioration of cognitive and memory dysfunctions associated with disorders such as Alzheimer's diseases.

**Medicinal uses of cannabis**

Cannabis was used as in the a medicine earlier the Christian era in Asia, particularly in India. The Therapeutic use of Cannabis sativa L. (hemp) has a very long history. It has been used for the treatment of several Diseases since the Vedic Period. It is well known for various forms of non-formal medical treatments. The medicinal value of Cannabis involve Intoxicant, analgesic, narcotic, stomachic, Antispasmodic, anodyne, sedative etc. (Ben, 2006; Russo and Guy, 2006; Goutopoulos and Makriyannis, 2002). The Cannabis leaves alone Have capability to cure more than 25 diseases (Kala et Al., 2004). Cannabis Seeds are used to treat tumors and Cancerous ulcers. In the last 50 years there are more Than 1000 publications reports various aspects Of Cannabis sativa (Zuardi, 2006).

Some of the Important medicinal uses of Cannabis are given in following Table 1.

Table 1. Medicinal use of *Cannabis sativa*.

Medicinal use	Reference
Anthelmintic	Bhattacharai, 1992
Anticancer activity against cancer cell lines	Tariq and Reyaz, 2012a
Antimicrobial activity	Tariq and Reyaz, 2012b
Anti-nausea and Anti-vomiting	Sallan et al., 1975
Antispasmodic, anodyne and narcotic	Anon, 1931
Aphrodisiac	Waddell et al., 1980
Apoptosis	Lee et al., 2008
As a hallucinogen and for rheumatism	Saha et al., 1961
As a parturifacient	Ahmad, 1957
As an abortifacient	Saha et al., 1961
Antiseptic and to treat swelling of sprained joints	Bhattacharai, 1993
As an antispasmodic and anodyne	Asprey and Thornton, 1955
As an aphrodisiac	Lewis and Elvin-Lewis, 1977
As an emmenagogue	Saha et al., 1961; Berhault, 1974
As an insect repellent	Nayar, 1955
As narcotic, antispasmodic and analgesic	Anon, 1898
Decoction of the seed used for migraine and cancer	Duke and Ayensu, 1985
Decrease fertilizing capacity	Schuel et al., 1987
Decrease testosterone metabolism	Watanabe et al., 2005
For asthma	Simon and Lamla, 1991
For burns	Jain and Puri, 1984
For cuts, boils and blisters	Singh and Maheshwari, 1994
For diabetes	Tucakov, 1978; Morrison and West, 1982
For diabetes, hysteria and sleeplessness	Rajurkar and Pardeshi, 1997
For dysentery	Bhattacharai, 1992
For inflammation	Rana and Datta, 1997
Fresh leaves used for hemorrhoids	Singh et al., 1996
Fruit used externally for skin diseases	Rao, 1981
Hallucinogen	Diaz, 1977
In diarrhea	Manandhar, 1993
In indigestion	Sahu, 1984
In rheumatoid arthritis, epilepsy and cholera	Zagari, 1992
Increase amorous prowess of women	Nahas, 1981
Induce abortion	Hunte, 1975
Narcotic	Bellakhdar, et al., 1991
Psychotropic	Anon, 1946
Reduce abdominal pain, neuralgia and coughing	Zagari, 1992
Relieve menstrual pain	Tatkon, 1976
Relieve pain of dysmenorrhea	Lockmi, 1982
To clear the blood and for rheumatism.	Li, 1974
To eliminate cough and bronchitis	Lal and Yadav, 1983
To induce abortion, labor, and menstruation	Woo et al., 1981
To relieve muscular pains	Giron et al., 1991
Treatment of dyspepsia and gonorrhoea	Sahu, 1984
Treatment of malaria	Asprey and Thornton, 1955
Unripe fruit induce sleep	Shah, 1982

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## CONCLUSION

Cultivation of Cannabis sativa is banned in India and some other countries.

It can be prepared by taking licence by Indian government. Cannabis sativa is whole plant is not necessary but it's some Residue like stem, root, leaves or flower etc. involved in crime since may be found together either separate. This plant rich with various compound that useful for systemic range of effect on Human Physiology. This systemic effects are generally due to cannabinoids and terpenes. Their large family of metabolite that can interrelate with many cellular and physiological system in our body. Medicinal use of Cannabis involved intoxicants, analgesic, narcotic, Stomachich, antispasmodic, Anodyne, sedative etc. Hemp seed oil which has industrial as well as medicinal application.

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