

**Basic Certificate in Palliative Care**  
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**Week-12**  
**Lecture 07: History of Opium - Part II**

Good evening, I come back to Dr. Yashwant Joshi's presentation on opium.

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<b>PART: IV</b>	<b>ILLEGAL TRADE</b>

The first part is opium plant, then comes opium it's timeline and opium variants and illegal trade. These are the four topics on which I discuss on behalf of Dr. Yashwant Joshi.

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## **PART: I OPIUM PLANT**



**Beauty, Blessings & Beast!**

Opium plant is very beautiful to look at blessings and beast. So in that two sides of the same coin.

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## **PART: II OPIUM: TIME LINE**



**Wild to Wilderness!**

Opium wild to wilderness, heroin you may also might have heard of this it has become common parlance heroin.

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## PART: III OPIUM VARIANTS



**Wonderful Nectar in Palliative Care!**

Opium variants wonderful nectar in palliative care.

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### **INTERNATIONAL OPIUM COMMISSION 1909**

In 1909, the **International Opium Commission** was founded. Subsequently, this role passed to the **League of Nations**, and all signatory nations agreed to prohibit the import, sale, distribution, export, and use of all narcotic drugs, except for medical and scientific purposes. This role was later taken up by the **International Narcotic Control Board of the UNO** under Article 23 of the **Single Convention on Narcotics Drugs**, and subsequently under the Convention on Psychotropic Substances. Opium-producing nations are required to designate a government agency to take physical possession of licit opium crops as soon as possible after harvest and conduct all wholesaling and exporting through that agency.

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## 20TH-CENTURY USE

BAYER HEROIN BOTTLE



During the Communist era in Eastern Europe, poppy stalks sold in bundles by farmers were processed by users with household chemicals to make *kompot* ("Polish Heroin"), and poppy seeds were used to produce *koknar*, an opiate.

So in 20th century use there is an evidence of a bottle containing bayer heroin. During the communist era in Eastern Europe poppy stalks sold in bundles by farmers were processed by users with household chemicals to make *kompot* or polished heroin and poppy seeds were used to produce *koknar* and opiate.

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## **MORPHINE: 1804**

Globally, opium has gradually been superseded by a variety of purified, semi-synthetic, and synthetic opioid with progressively stronger effects, and by other general anesthetics. **This process began in 1804, when Friedrich Wilhelm Adam Sertürner first isolated morphine from the opium poppy.** The process continued until 1817, when Sertürner published the isolation of pure **morphine** from opium after at least thirteen years of research and a nearly disastrous trial on himself and three boys.

In 1804 morphine globally opium has gradually been superseded by a variety of purified semi-synthetic and synthetic opiate with progressively stronger effects and by other general anaesthetics. This process began in 1804 when Frederick William Adam Sir Turner first isolated morphine from the opium poppy. The process continued until 1817 when Sertürner published the isolation of pure morphine from opium after at least 13 years of research and a nearly disastrous trial on himself and three boys.

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## **CODEINE: 1832**

Morphine was the first pharmaceutical isolated from a natural product, and this success encouraged the isolation of other alkaloids:

- By 1820, isolations of noscapine, strychnine, veratrine, colchicine, caffeine and quinine were reported.
- Morphine sales began in 1827, by Heinrich Emanuel Merck of Darmstadt, and helped him expand his family pharmacy into the Merck KGaA pharmaceutical company.
- **Codeine was isolated in 1832 by Pierre Jean Robiquet.**
- The use of diethyl ether and chloroform for general anesthesia began in 1846–1847, and rapidly displaced the use of opiates and tropane alkaloids from Solanaceae due to their relative safety.

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Codine was isolated in 1832 by Pierre Jane Robiquet.

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## HEROIN & OXYCODONE

- **Heroin**, the first semi-synthetic opioid, was first synthesized in 1874, but was not pursued until its rediscovery in 1897 by Felix Hoffmann at the Bayer pharmaceutical company in Elberfeld, Germany. From 1898 to 1910 heroin was marketed as a non-addictive morphine substitute and cough medicine for children. By 1902, sales made up 5 percent of the company's profits, and "heroinism" had attracted media attention.
- **Oxycodone**, a thebaine derivative similar to codeine, was introduced by Bayer in **1916** and promoted as a less-addictive analgesic. Preparations of the drug such as oxycodone with paracetamol and extended release oxycodone remain popular to this day.

Heroin and Oxycodone Heroin, the first semi-synthetic opioid, was first synthesized in 1874 but was not pursued until its rediscovery in 1897 by Felix Hoffmann at the Bayer Pharmaceutical Company in Elberfeld, Germany. From 1898 to 1910, heroin was marketed as a non-addictive morphine substitute and cough medicine for children. By 1902, sales made up 5% of the company's profits and heroinism had attracted media attention. Oxycodone, a theban derivative similar to codine, was introduced by Bayer in 1916 and promoted as a less addictive analgesic.

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## RANGE OF SYNTHETIC OPIOID

- A range of synthetic opioid such as **methadone (1937), pethidine (1939), fentanyl (late 1950s)**, and derivatives thereof have been introduced, and each is preferred for certain specialized applications.
- Nonetheless, morphine remains the drug of choice for Indian Army who carry packs of morphine for use on severely wounded soldiers. No drug has been found that can match the painkilling effect of opioids without also duplicating much of their addictive potential.

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## NDPS (III Amendment) Rules, 2015

1	Codeine	<b>Methyl Morphine (Commonly known as 'Codeine') and Ethyl Morphine and their salts (including Dionine)</b>
2	Fentanyl	1-phenethyl-4-N- propionylanilino-piperidine (the international- non-proprietary name of which is Fentanyl)
3	Hydrocodone	Dihydrocodeinone (commonly known as Hydrocodone)

## NDPS (III Amendment) Rules, 2015

4	Methadone	4:4-diphenyl-6-dimethylamino-heptanone-3 (otherwise known as 6-dimethyl amino 4 : 4-diphenyl-3-heptanone and as Methadone)
5	Morphine	Morphine and its salts and all preparations containing more than 0.2 per cent. of Morphine
6	Oxy-codone	DihydroxyCodeinone (commonly known as 'Oxy-codone and Dihydroxycodeinone),

Narcotic Drugs and Psychotropic Substance Act, Third Amendment, Rules, 2015  
Codeine, methylmorphine, commonly known as codeine, and ethylmorphine and their sorts including dionne, fentanyl, hydrocodone, methadone, morphine, oxycodone.

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So what is relating to illegal trade, what most unlawful and unethical practices are being followed.

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## HEROIN

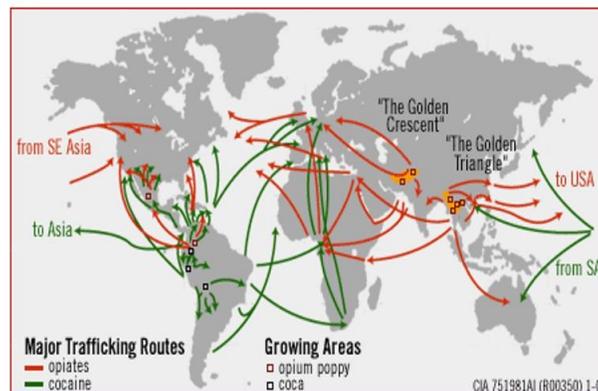
**Heroin is widely preferred because of increased potency.** One study in post-addicts found heroin to be approximately 2.2 times more potent than morphine by weight with a similar duration.. Heroin was also found to be twice as potent as morphine in surgical anesthesia. Morphine is converted into heroin by a simple chemical reaction with acetic anhydride, followed by purification.

In illegal trade heroin is widely preferred because of increased potency. One study in post addicts found heroin to be approximately 2.2 times more potent than morphine by weight with a similar duration. Heroin was also found to be twice as potent as morphine in surgical anesthesia.

Morphine is converted into heroin by a simple chemical reaction with acetic anhydride followed by purification.

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## INTERNATIONAL DRUG ROUTES



International drug routes, so these are the routes through which this poppy is traveling across the globe.

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### **Black Tar Heroin**



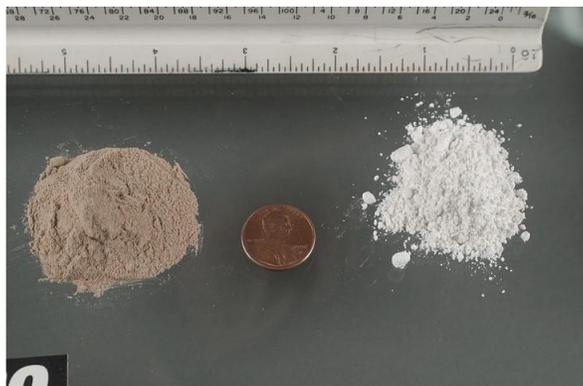
## **Brown Heroin**



## **White Heroin**



## **Asian Heroin**



Black tar heroin, so there are pictures showing the chemicals, brown heroin, white heroin, Asian heroin, so how beautiful the names are made for heroin.

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## **AFGHANISTAN**

### **MAIN PRODUCER OF OPIUM**

Afghanistan is currently the primary producer of drug. After regularly producing 70 percent of the world's opium, Afghanistan decreased production to 74 tons per year under a ban by the Taliban in 2000. A year later, after American and British troops invaded Afghanistan, removed the Taliban and installed the interim government, the land under cultivation leapt back to 740 km<sup>2</sup>, with Afghanistan supplanting Burma to become the world's largest opium producer once more. Opium production in that country has increased rapidly since, reaching an all-time high in 2006.

Now let us go back to the illegal trade of Afghanistan. Main producer of opium is Afghanistan.

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## **AFGHANISTAN, HELMAND PROVINCE**

**A Marine Greets Local Children Opium Field**



Afghanistan, Helmand Province, Emran, Greece, local children opium field, how beautiful the picture is, though how devastating the results are.

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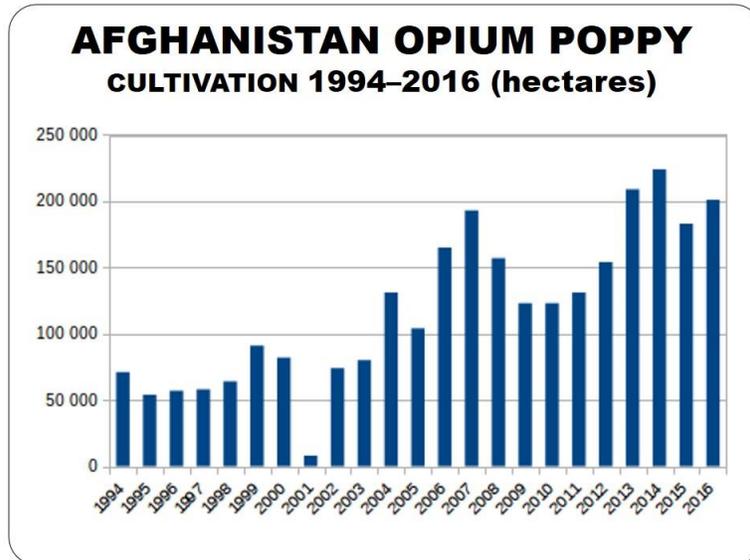
## **AFGHANISTAN MAIN PRODUCER OF OPIUM**

An increasingly large fraction of opium is processed into morphine base and heroin in drug labs in Afghanistan. Despite an international set of chemical controls designed to restrict availability of acetic anhydride, it enters the country, perhaps through its Central Asian neighbors which do not participate. A counternarcotics law passed in December 2005 requires Afghanistan to develop registries or regulations for tracking, storing, and owning acetic anhydride.

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So this is a picture showing the opium poppy cultivation from 1994 to 2016. So on the left hand side you can see the cultivated land in hectares, 250,000 hectares of land in Afghanistan is earmarked for cultivation of opium poppy in 2016.

The opium market in 1994 started with only 50,000 hectares. So there is a vast difference between the two periods, 1994 and 2016.

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## **GOLDEN TRIANGLE**

200 G SPANISH OPIUM  
BALL



Besides Afghanistan, smaller quantities of opium are produced in Pakistan, the Golden Triangle region of Southeast Asia (particularly Myanmar), Colombia, Guatemala, and Mexico.

Golden triangle, 200 G Spanish opium ball. There is a picture of the opium ball. Besides Afghanistan, smaller quantities of opium are produced in Pakistan, the golden triangle region of Southeast Asia, particularly Myanmar, Colombia, Guatemala and Mexico.

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*Beauty to Beast!*



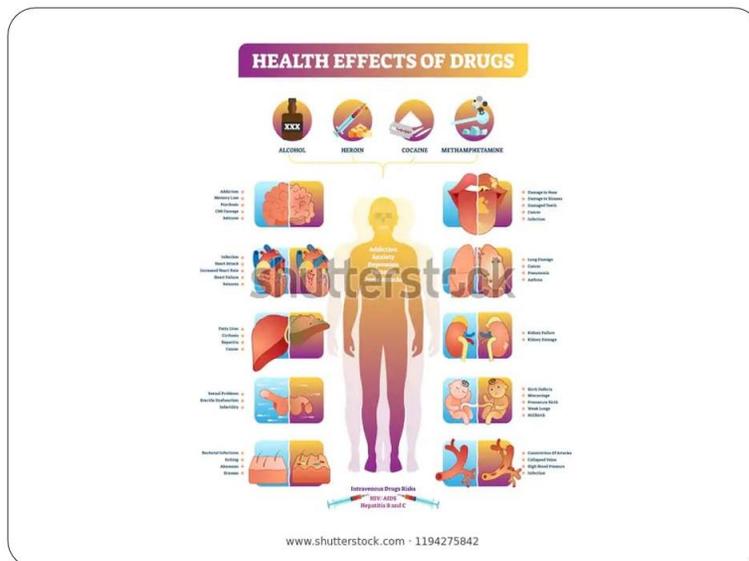
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Beauty to beast, heroin is very beautiful but it acts as a beast.

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So other pictures showing how illegal use.



Health effects of drugs. These are commonly available data across the globe. Even Google if you search you will get all the details on health effects of drugs especially the opium.

I think with this small introduction my dear students have an understanding of how this drug is going to affect adversely to the welfare of the common man in general. Thank you.