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Cannabis – miracle medicine or psychosis-inducing drug?

IN BYGONE DAYS

HENRIK MYHRE IHLER

henrikih@uio.no

Henrik Myhre Ihler, specialty registrar in psychiatry at the Early-Intervention Psychosis Unit, Nydalen District Psychiatric Centre, and PhD candidate at the Norwegian Centre for Mental Disorders Research (NORMENT), where he is investigating the association between cannabis use and psychosis.

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Throughout history, cannabis has been suggested as a treatment for numerous diseases. Despite being in use for over 5000 years, cannabis is still a hot topic of debate and the subject of discussion among politicians and the medical community.

Photo: David Diaz Arcos, NTB-DPA

The earliest record of cannabis is from China and dates back around 5000 years, when the cannabis plant was used for medicinal purposes. *Ma* was the Chinese character for hemp fibre, and it had two connotations: one meaning was *numerous* or *chaotic*, which is believed to reflect the physical appearance of the plant fibres, and the second was *numbness* or *senselessness*, which is probably derived from the effects of consuming the plant's fruits and leaves. *Ma* could also mean *devil* and *paralysis* in certain linguistic combinations (1).

The Assyrians had several names for cannabis: *gan-zi-gun-nu*, which roughly translates to 'the drug that takes away the mind'; and *azallu*, which referred to cannabis used for medicinal purposes to treat the as yet unidentified disease 'hand of ghost' (2). Azallu synonyms suggest that the word could also mean to assuage or induce panic (3). Pliny the Elder, a Roman naturalist, used the term *gelotophyllis* – the leaves of laughter – for cannabis from Central Asia, which likely had a high content of psychoactive substances (3).

The modern word 'cannabis' probably emerged during its journey from Asia to Europe and Africa. Its stem *can* is related to the English word *cane*, while the suffix *bi* means perfumed or fragrant (4) – i.e. a pleasant-smelling stick.

The word 'hash' is from the Arabic *hashish*, which means dry herb or grass. *Hashashin* – i.e. hashish user – is also considered to be the origin of 'assassin', and was initially a derogatory term for people who were part of a cannabis culture. Following the Crusades in Europe, its meaning became synonymous with 'assassin' (5).

The origin of the word 'marijuana' is contested. Some claim it is derived from the Portuguese *mariguango*, meaning intoxicant (6). Dictionaries point out its resemblance to Maria Juana from Mexican Spanish folk etymology (7) and indicate that the Mexicans introduced the word to the United States. Others argue that the word has African roots and is derived from *mariamba* (8).

> ***«The tension between the positive and negative linguistic connotations accurately reflects the historically varied role of cannabis»***

There are as many contemporary synonyms for cannabis as there are theories behind their origin. The tension between the positive and negative linguistic connotations accurately reflects the historically varied role of cannabis and leaves us with a legacy of contested views that still need to be framed.

The stories behind historical writings

The earliest written accounts of the effects of cannabis on the psyche date back to about 4000 years ago in China. The first known pharmacopoeia, *Pên-ts'ao Ching*, describes how if cannabis is taken in excess it will produce hallucinations (literally 'seeing devils'), and if taken over a long time 'it makes one communicate with spirits and lightens one's body'. (1). A few thousand years later, the analgesic effect of cannabis and its distortion of the perception of time have been described (1).

It is worth noting that there was a fine line between medicine and magic in those days. Medicine was seen as a magical wonder, and shamanism was widely practised in Asian countries. Shamanism was also popular with nomads, and human exploitation of the plant continued to spread across the globe. A 3800-year-old Babylonian clay tablet suggests that cannabis was used as a remedy for grief and epilepsy in Sumer (Mesopotamia) (3). Later, the Atharvaveda Hindu scripture (ca. 1200–1000 BC) claims that cannabis can 'release us from anxiety' (9).

> *«There was a fine line between medicine and magic in those days»*

The Greek historian Herodotus described the use of burnt cannabis flowers in funeral rites, where participants 'screamed with delight' (3). However, in 14th-century Egypt, people were warned that cannabis could lead to sudden death or insanity (2). The large variation in the potential effects of the plant were discovered early on.

In Europe however, the psychoactive effects were not particularly well known until the 19th century. Cannabis seeds were initially described as having a potentially beneficial effect on frightening dreams in depression (10). The Frenchman Jacques-Joseph Moreau (1804–84) experimented with cannabis on himself. He reported that the drug could produce a feeling of 'pure ecstasy', but also create disorganised thoughts and distort the perception of time (11).

The Irish doctor Sir William Brooke O'Shaughnessy (1809–89) studied the effects of Indian hemp while serving in the British East India Company in the 1830s (6). His research culminated in the first modern scientific article on cannabis use (12). In the introduction, he refers to the drug's apparent dual effect: in small doses it can act as a stimulant, such as on the appetite and the human organism in general, but in larger doses it can have a sedative effect and 'induce insensibility'. He goes on to explain: 'As to the evil sequelae so unanimously dwelt on by all writers, these did not appear to me so numerous, so immediate, or so formidable …'.

> *«Queen Victoria used cannabis for menstrual pain, the cultural elite in France had their own hash clubs»*

Towards the end of the 19th century and the start of the 20th century, cannabis became increasingly widespread and accepted in Europe. Queen Victoria (1819–1901) used it for menstrual pain, the cultural elite in France had their own hash clubs, and Duchess Elisabeth of Bavaria used it for coughs and as an appetite stimulant (11, 13, 14).

The eminent British neurologist Sir John Russell Reynolds (1828–96) summarised his experiences with cannabis in The Lancet (15). He cited his colleague, Dr Williams, who warned his medical students against the dubious effects and the risk of intoxication. However, Reynolds claimed that cannabis 'when pure and administered carefully, is one of the most valuable medicines we possess'. He reported a positive effect on 'senile insomnia' (delirious patients who wander at night), alcoholic delirium and melancholia. In contrast, he described the effect on mania as 'worse than useless'.

20th century iron fist

Scholars dispute how the so-called recreational use of cannabis was imported to the United States. Did it start among slaves of African descent working on hemp plantations, or was it through immigrants in the wake of the Mexican Revolution in 1910 (16)? Time-wise, the latter seems to be the most likely, as its popularity started to spread at the start of the 20th century, especially in jazz circles.

Its use was, however, most widespread among Mexican immigrants, and the media started linking marijuana to madness and criminality (17). Things came to a head during the Great Depression after the stock market crash of 1929, eventually culminating in the Marijuana Tax Act of 1937 that imposed heavy taxes on cannabis (18). Several states had already banned cannabis, and the 1925 Geneva Convention listed cannabis as one of the substances to be subject to international control (19). The cannabis wave spread as part of the hippie movement in the 1960s, and the first seizure of cannabis in Norway took place in 1965 (19).

> ***«The cannabis wave spread as part of the hippie movement in the 1960s»***

The war on drugs became a popular catchphrase in the campaign against drugs, with the United States and President Nixon leading the charge. This greatly dampened the liberal attitudes to drugs in the 1960s, and cannabis became criminalised, which probably contributed to the decline in research in this area. The cultural and medical implications of the legislation were hotly debated, and several doctors pointed out the non-toxic nature of cannabis and its therapeutic potential. However, it was acknowledged that its effects varied considerably, and medicines that were less likely to be abused replaced cannabis for several of the indications, e.g. aspirin for headaches (11, 18).

Packaging of medical cannabis at UNIVO Pharmaceuticals, Israel 2022. Photo: Tsafrir Abayov, AP/NTB

Contemporary research making great strides

Tetrahydrocannabinol (THC) was isolated in the 1960s (20), and the so-called endocannabinoid system (ECS) was discovered in the 1990s (21). Despite over 5000 years of experience, we thus have less than 30 years of specific knowledge on the biological system that is affected by cannabis use. Extensive research has been conducted on cannabis use in recent years, but the evidence base remains sparse in several areas. In terms of the effects on the psyche, there are strong indications that the most potent ingredients can induce psychosis symptoms (22) and have a detrimental effect on people with mental disorders (23). However, this is not necessarily the case for other cannabinoids, such as cannabidiol. Studies on the global burden of disease show that cannabis use is associated with addiction and mental disorders, including psychosis. Nevertheless, it does not appear to increase mortality in the population in the same way as opioids, amphetamines and cocaine (24).

What can we learn from history?

A journey through time clarifies one thing: the use of cannabis has always been diverse and full of contrasts. It offers the potential for pleasurable highs, relief of pain and nausea, but also psychosis, anxiety and confusion. The heterogeneous properties of the plant mean that we have to differentiate between the potential areas of application and test the effects separately. Demonising cannabis is pointless: no one doubts the place of morphine in hospitals – as long as we also consider the potential for addiction and fatal overdoses.

> ***«No one doubts the place of morphine in hospitals – as long as we also consider the potential for addiction and fatal overdoses»***

In order to advance a sensible debate on cannabis, we must first recognise the parallel issues that are often confused: the discussion about cannabis as a *medicine* and the discussion about cannabis as a recreational drug. The shamans' blend of medicine and magic comes to mind. The key role of cannabinoids in the medicine cabinet of future doctors does not justify its use as a recreational drug.

By the same token, it is dangerous to assume that the euphoric high cannabis can give automatically makes it a miracle drug. It is also important to nuance the effects of each individual cannabinoid. Maybe some cannabinoids can be used as medicine, while others have the greatest potential as a recreational drug with few harmful effects?

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