MARIJUANA ONCE AND TODAY

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II CONGRESS OF PHARMACISTS OF MONTENEGRO WITH THE INTERNATIONAL PARTICIPATION

28-31.MAJ 2015. BUDVA, HOTEL SPLENDI

Cannabis sativa L. is an annual herbaceous plant in the *Cannabis* genus, a species of the Cannabaceae family. People have cultivated *Cannabis sativa* throughout recorded history as a source of industrial fibre, seed oil, food, recreation, religious and spiritual moods, and medicine. Each part of the plant is harvested differently, depending on the purpose of its use.

Figure 1. The images of the leaves of *Cannabis sativa* L

Broadly, there are three main cultivar groups of cannabis that are cultivated today: Cultivars primarily cultivated for their fibre, characterised by long stems and little branching, cultivars grown for seed which can be eaten entirely raw or from which hemp oil is extracted and cultivars grown for medicinal or recreational purposes. A nominal if not legal distinction is often made between industrial hemp, with concentrations of psychoactive compounds far too low to be useful for that purpose, and marijuana.

Cannabis chemical constituents include about 100 compounds responsible for its psychoactive characteristics, as well, as aroma. These are mainly volatile terpenes and sesquiterpenes. Although the main psychoactive constituent of *Cannabis* is tetrahydrocannabinol (THC), the plant is known to contain about sixty cannabinoids; however, most of these "minor" cannabinoids are only produced in trace amounts.

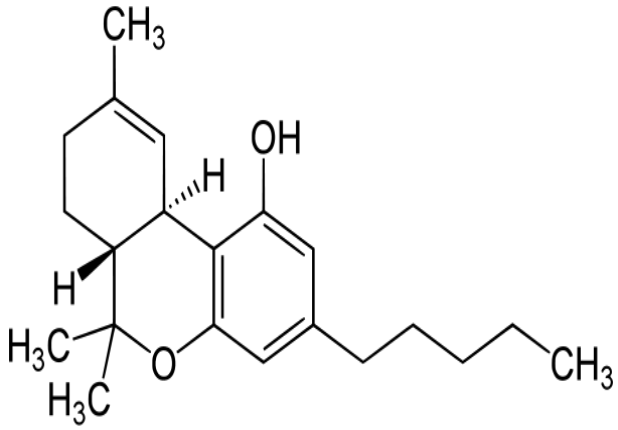

Figure 2. Chemical structure of Δ^9-tetrahydrocannabinol (THC)

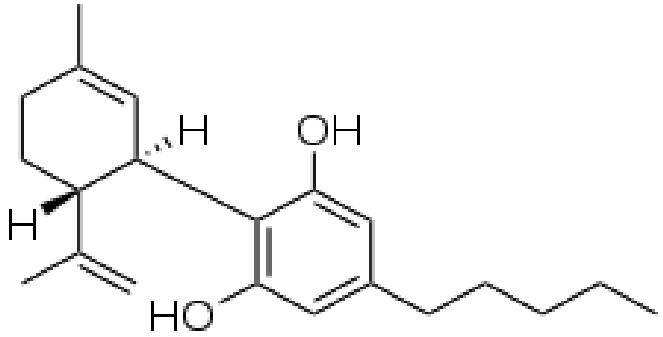

Figure 3. Chemical structure of cannabidiol

Besides THC, another cannabinoid produced in high concentrations by some plants is cannabidiol (CBD), which is not psychoactive but has recently been shown to block the effect of THC in the nervous system. CBD is a major phytocannabinoid, accounting for up to 40% of the plant's extract. CBD is considered to have a wider scope of medical applications than tetrahydrocannabinol (THC). An orally-administered liquid containing CBD has received orphan drug status in the US, for use as a treatment for Dravet syndrome.

The mainly volatile terpenes and sesquiterpenes which are responsible for specific aroma of the plant are: Myrcene, linalool, limonene, trans-β-ocimene, α-terpinolene, trans-caryophyllene, α-humulene, caryophyllene oxide (some hashish detection dogs are trained to detect the smell of caryophyllene oxide) etc.

Marijuana is a preparation of the *Cannabis sativa L.* plant intended for use as a psychoactive drug and as medicine. Marijuana is the mixture made of flowers (female hemp plant in flower), leaves and small stems of *Cannabis sativa*. Pharmacologically, the principal psychoactive constituent of cannabis is THC (6%).

Figure 4. The image of marijuana ready for consumption

Throughout human history marijuana has been used for many purposes such as recreation, therapy, art, religion, medicine as a textile. The origin of marijuana dates from six thousands years ago when many different tribes used it for different celebrations and rituals. There are documents that show that marijuana was used even in the time of Chinese Emperor Shen

Nung in 2337 BC. They used it in their funeral rituals. Seeds of this plant were found in their funeral urns. This plant was also used for treating insomnia, healing and also as painkiller. Each culture and subculture from prehistory up to now use this plant because it causes selective changes in consciousness of its consumers strictly dosing what is beyond reality, and also for medical reasons. Medicinal use of marijuana arrived in Europe from the East during the 18th century. It was brought to Europe much later, but it was not less popular. It reaches the high society very soon. In Paris, a club was open where many famous people, even Balzac, enjoyed marijuana.

大麻

Figure 5. "Dàmá", the Chinese word for "cannabis"

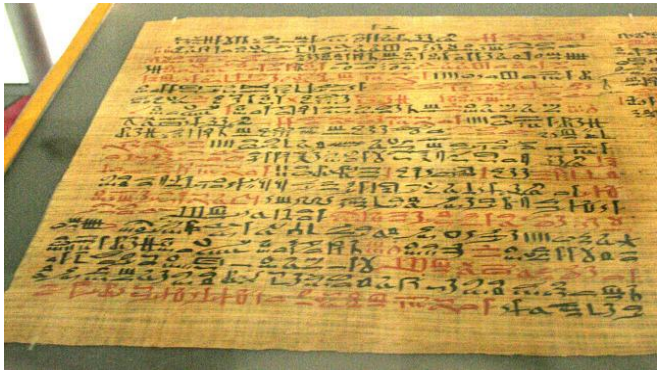

Figure 6. The Ebers Papyrus (ca. 1550 BCE) from Ancient Egypt has a prescription for medical marijuana applied directly for inflammation.

Figure 7 *Cannabis sativa* scientific drawings from 19th century

The first comprehensive description of the medical use of Indian hemp in Europe was written in 1830 by the German pharmacist Friedrich Ludwig Nees von Esenbeck. Until that point in time, use of marijuana for medical purposes had remained at a low level. Thanks mainly to the work of W.B.O'Shaugnessy in 1839 marijuana become recognized within European – school medicine. He used various hemp compounds in his investigations, partly with great success, against rheumatism, rabies, cholera, tetanus, convulsions and delirium tremens. The prestigious US Institute of Medicine published its report Medical Use of Marijuana in 1999. Recent studies reviewed by Park et al. 2004 that marijuana, THC and other exogenous cannabinoids exert potent effects on the endocannabinoid system in both the gonads and during pregnancy. These reports established the evidence base to support the further examination of cannabis products for medical use.
Today marijuana is forbidden in many countries for its narcotic and negative influence to the nerve system. In some cultures marijuana was a protected mark, other cultures were its big admirers and third do not know or do not look on that way about marijuana. The use of marijuana was legalized in the Netherlands in 2003 and extended for a five – year period in 2007.

Some investigations which have been conducted in several European countries within recent ten years revealed easy availability of the drug on the illicit market. According to these studies availability of cannabis can be indirectly inferred on the data of perceived availability, police seizures data and also prices of the drug on the street as they indicate economic accessibility of drug as related to incomes. A few conclusions can be drawn from Figure 8. First cannabis seems to be fairly easy available for a substantial proportion of students in all countries under review form.

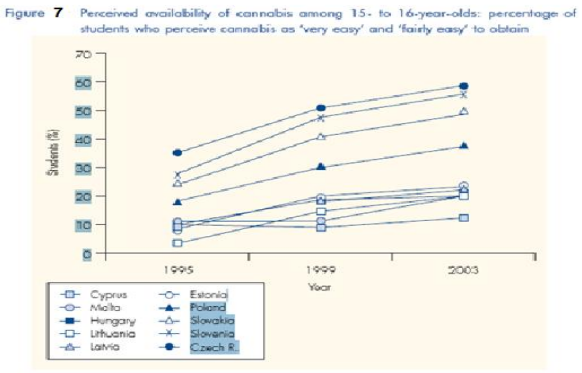

Figure 8. Availability of the drug on illicit market

Conclusion

The usage of marijuana through the ages has been accompanied by a lot of controversies. Measuring the proportion of problematic or dependent cannabis users from among the wider cannabis user base is complex. It presents far more challenges than measuring prevalence by lifetime or last month cannabis use in general population surveys. Faced with an increase in cannabis use, policymakers may choose to add some tools to general population surveys or the monitoring instruments used by addiction treatment centres.

Today, a great number of concepts and tools exist to monitor problematic cannabis use, and they vary in terms of both quality and robust scientific validation. Nonetheless, these instruments do offer valuable insights into use patterns. Implementing a common screening tool, even if not validated, can deliver important information to inform the fields of prevention and treatment. Policymakers should be prepared for some criticism based on the lack of consensus surrounding dependence and abuse, but screening at least delivers a base of knowledge that can be used by specialists in defining public policy.

There is clearly a need to develop screening tools that are more reliable in measuring adverse effects of cannabis use than those presently in use. Some existing instruments, such as CIDI and CAST, go some way to providing a standard, practical tool, and can provide a basis for further work. In Europe, screening projects for cannabis are under way in Germany, France, the Netherlands, Poland, Portugal, the United Kingdom and, most recently, Spain (EMCDDA, 2007). It is hoped that such initiatives will help to develop a reliable and comparable indicator of problematic cannabis use in the general population.

References

[1] A cannabis reader: global issues and local experiences, EMCDDA monographs, vol. 8, 2008, pp. 742, Luxembourg: Office for Official Publications of the European Communities, 2008 , ISBN 978-92-9168-311-6