A QUICK GUIDE TO MEDICAL CANNABIS

With medical cannabis now legal in 44 countries around the world, and the UK likely to follow suit, here’s what pharmacists need to know.

DAWN CONNELLY

Cannabis plants contain more than 100 cannabinoids, as well as other compounds like flavonoids and terpenoids, which is thought to be why some people respond better to herbal cannabis than pure cannabinoid derivatives.

Cannabinoids act on the body’s endocannabinoid system, which helps regulate many bodily functions via CB1 receptors, found mainly in the brain, CB2 receptors in immune cells; the gastrointestinal tract; and peripheral nervous system.

The two most studied cannabinoids are THC and CBD.

THC (Δ9-tetrahydrocannabinol) THCs are the psychoactive components of cannabis. Weak partial agonist on CB1 and CB2 receptors. THC potency in dried cannabis increased from an average of 3% in the 1980s to around 15% today. Some strains contain more than 20% potency.

CBD (cannabidiol) CBD does not produce psychoactive adverse effects. Has little affinity for CB1 and CB2 receptors directly. It is believed to modulate the effects of THC throughout the endocannabinoid system, which is why the THC/CBD ratio can lead to different responses and adverse effects.

Evidence for medical cannabis

Intractable seizures in Dravet and Lennox-Gastaut syndromes (CBD)

Improving short-term sleep in those with obstructive sleep apnoea syndrome, fibromyalgia, chronic pain and multiple sclerosis (cannabidiol)

Improving symptoms of Tourette syndrome (THC capsules)

Improving anxiety symptoms in individuals with social anxiety disorders (cannabidiol)

Improving symptoms of post-traumatic stress disorder (nabiximols)

Better outcomes after a traumatic brain injury or intra cranial haemorrhage (cannabinoids)

Chemotherapy-induced nausea and vomiting (oral cannabinoids)

Increasing appetite and decreasing weight loss associated with HIV/AIDS (cannabis and oral cannabinoids)

Improving patient-reported multiple sclerosis relapsing symptoms (oral cannabinoids)

Chronic pain in adults (cannabidiol)

Potential adverse effects

- Decreased short-term memory, dry mouth, and impaired perception and motor skill
- Impairment of driving abilities
- Paranoia, paranoid thoughts and hallucinations (at very high THC levels)
- Schizophrenia and other psychoses
- Social anxiety disorder
- Chronic cough and phlegm production
- Unintentional cannabis overdose injuries among children
- Lower birth weight in the offspring if smoked during pregnancy
- Impairments in academic achievement and education, employment and income, and social relationships and social index
- Suicidal thoughts (with heavy use)
- Developing problem cannabis use dependence

Sources: Brazilian Epilepsy Society; The Canadian Society for Clinical and Translational Science; International Society for cannabinoid research; World Cancer Research Fund; The National Academies of Sciences, Engineering, and Medicine

Medical cannabis regulation in Europe

Different models of regulation exist. In most countries, the government controls cannabis production and supply is restricted to licit/legitimized outlets (e.g., pharmacies), although some also allow self-cultivation. Some countries restrict the conditions for which cannabis can be prescribed.

Legal
- Legal but difficult to access
- Decriminalized
- Illegal (except for licensed cannabis-based derivatives, e.g. Sativex)

The Netherlands

Date legalized: 2000
Availability: Pharmacies
Cost: Reimbursed by health insurance companies
Contraindications:
- Pain and muscle spasm or cramps associated with multiple sclerosis or spinal cord damage
- Nausea, loss of appetite, weight loss and rehabilitation resulting from cancer or AIDS
- Nausea and vomiting associated with chemotherapy or radiotherapy used in the treatment of cancer, hepatic or or HIV infection and AIDS
- Chronic pain (mainly neuropathic)
- Tourette syndrome
- Therapy-resistant glaucoma

Users: Around 8,000 patients received a prescription for herbal cannabis or cannabis oil in 2018

Germany

Date legalized: 2017
Availability: Pharmacies
Cost: Reimbursed by health insurance companies
Contraindications: For a list of indications for which cannabis or cannabis products are officially reimbursed by the health insurance companies

Cost: Reimbursed by health insurance companies

Contraindications:
- Not covered by national health insurance companies
- Conditions associated with multiple sclerosis, cancer, epilepsy and AIDS

Users: No data but demand thought to be low

Sources: EPF, Global Burden of Disease Study, WHO, Unicef

INFOGRAPHIC

Routes of administration and dosing

There are no established uniform dosing schedules for products such as fresh marijuana, smoked/vaporised marijuana or cannabis oil. Patients should start with a very low dose, e.g., 1mg THC, and titrate slowly until the desired effect is achieved, stopping if unacceptable adverse effects occur.