

White Paper

Cannabis Based Medicinal Products for Use in Chronic Pain Management Therapy

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Purpose

This paper will lay out the basis of support for the application of cannabis based medicinal products (CBMPs) in chronic pain management therapy.

Background

Chronic pain is an active and growing concern of public health. Around 43% of the UK population suffer from chronic pain conditions, with up to 14.3%, approximately 8 million people, living with chronic pain that is either moderately or severely disabling.¹

First-line pharmaceutical analgesics such as opioids and NSAIDs present moderately successful outcomes for acute and subacute pain. For many chronic pain conditions, however, especially for patients who cannot tolerate NSAIDs or where they may be contraindicated or have failed to provide adequate relief, there are often no good options.^{2 3}

Opioid medications in the treatment of non-cancer chronic pain have a high incidence of side effects, poor tolerability in the long term, and carry a risk of dependency. They have poor outcomes in many chronic pain conditions including lower back pain, one of the most common causes of chronic pain and disability/morbidity.^{4 5}

Analysis

There is now moderately strong evidence to support the use of the cannabinoid class of medications in the management of chronic pain. It has been demonstrated that the use of phytocannabinoids on the endocannabinoid and other neurotransmitter systems results in pain modulation.⁶

Primary mechanisms of this response probably involve the binding effects of CBD on specific pain (vanilloid TRPV1) and anxiety (mood regulating serotonin 5-HT1A) receptors, with emerging evidence around the pain perception modulating effects of THC on the functionality of pain pathways between the anterior cingulate and sensorimotor cortex.⁷

In the case of inflammatory pain the CB2 receptor in tissue plays a crucial role, whereupon activation cells release fewer pro-inflammatory signal substances, known as cytokines. Further evidence indicates that cannabinoids upregulate T-regulatory cells as a mechanism to suppress inflammatory responses. The substance beta-caryophyllene, which composes roughly 12 to 35 percent of the cannabis plant's essential oil, activates the CB2 receptor selectively.⁸

Extensive clinical experience, alongside controlled and uncontrolled studies, strongly supports the efficacy case for CBMPs, in which chronic pain sufferers have achieved improved clinical outcomes using CBMPs after unsuccessful treatment histories involving pharmaceutical analgesics.⁹

Caution is needed, especially with THC products, which are contraindicated in people with certain mental health and physical health conditions such as psychosis and unstable cardiac conditions.^{10 11} There are none of the associated critical harms of opioids and NSAIDs use or misuse. The initial focus on CBMPs today is on CBD, and in so doing THC might be avoided altogether, or at least a relatively low THC dose may be successful.¹²

In chronic pain that has failed first-line therapies, considering a cannabis-based medicine even before opioids, when all other options have been tried, is a reasonable alternative. Using a 'start low, go slow' approach with higher CBD, lower THC products minimises risk.

Cannabis has a thousands-year long history as a medicinal substance.¹³ It has a favourable overall safety profile over this lengthy time scale with respect to life-threatening adverse effects in overdose, such as with opioid based medicines.

There are no recorded deaths as a direct result of exclusive cannabis consumption in any form or with any volume of consumption.^{14 15}

The opioid class of medication misuse, by contrast, are responsible for a range of fatal and non-fatal adverse outcomes. There is a growing recognition of an 'opioid crisis' globally and more specifically in the UK due to prescribing opioids for chronic pain conditions, which may lead to overuse or misuse.¹⁶

In the USA, states where CBMPs have been made legal have observed reductions of as much as 30% in opioid consumption.¹⁷

Conclusions

On grounds of efficacy and safety there is an existing and emerging evidence base for the use of CBMPs to treat chronic pain conditions when other first line alternatives have been exhausted, and possibly before considering opioids.

References

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