Consensus Recommendations on Dosing and Administration of Medical Cannabis to Treat Chronic Pain: Results of a Modified Delphi Process

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ABSTRACT

Importance: Chronic pain affects close to two billion people worldwide. Globally, medical cannabis legalization has been increasing in recent years, and medical cannabis is commonly used to treat chronic pain. Medical cannabis has been associated with improved pain-related outcomes, increased quality of life, improved function and a reduced requirement for opioid analgesia. However, there are limited randomized control trials studying medical cannabis. As a result of this evidence gap, there are limited scientific data to guide dosing and administration of medical cannabis, which necessitates the demand for expert guidance on how to safely and effectively dose and administer medical cannabis.

Objective: Using a modified Delphi process, develop global expert consensus-based recommendations on how to safely and effectively dose and administer medical cannabis in patients with chronic pain.

Methods: We conducted a multistage modified Delphi process. An initial clinical practice survey was sent out to all 20 members of a global task force to gain an understanding of how patients are being treated with medical cannabis across different countries. A draft of consensus questions was developed and reviewed twice by a nine-member scientific committee before being sent out to all members for two rounds of pre-voting. A threshold of ≥75% agreement was predetermined for declaring consensus. Following the pre-voting, two virtual meetings were held to vote on the remaining key questions.

Results: There was consensus that medical cannabis may be considered for patients experiencing neuropathic, inflammatory, nociplastic and mixed pain. Three treatment protocols were developed and categorized as: routine, conservative and rapid. The routine protocol is recommended for the majority of patients. Conservative may be considered for the frail, elderly, and those with severe co-morbidity or polypharmacy. The rapid protocol is for those requiring urgent management of severe pain, palliation, and for those with significant prior use of cannabis. These protocols were established with the understanding that tailoring medical cannabis treatment to the individual is a critical component of successful treatment. If breakthrough pain management is necessary, dried flower vaporization was the recommended mode of administration.

Conclusions: This modified Delphi process led to expert consensus-based pragmatic recommendations on how to safely and effectively dose and administer medical cannabis for the treatment of patients with chronic pain.

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INTRODUCTION

- Chronic pain affects close to 2 billion people worldwide and is associated with impairment in physical and emotional function, reduced participation in social and vocational activities, and lower perceived quality of life.

- The number of countries where medical cannabis is approved has increased in recent years. In addition, it is common for physicians to be asked by patients for advice on how to use cannabis.

- Despite these clinical realities of increased use of medical cannabis, randomized control trials are lacking, resulting in an unmet need for expert guidance on using medical cannabis safely.

- The recommendations presented here were developed as practical guidance for clinicians who may have limited experience with prescribing medical cannabis.

METHODS AND MATERIALS

- A multistage modified Delphi process was used to establish expert consensus-based recommendations on the dosage and administration of medical cannabis.

- A global task force of twenty individuals were recruited based on extensive clinical experience and/or high academic interest in prescribing and managing patients on medical cannabis for the treatment of chronic pain.

- A threshold of ≥75% agreement was predetermined for declaring consensus.

- Four rounds of question review and pre-voting were conducted prior to two virtual meetings held to vote on the remaining key questions.

Figure 1. Global Task Force Geography

RESULTS

- Three protocols for oral dosing and administration of medical cannabis based on patient need were developed: Routine, Conservative, and Rapid (Figures 2-4).

- For each protocol, a starting cannabinoid type was voted on, followed by a titration protocol up to a maximum daily dose recommendation.

- The routine protocol is recommended for most patients. Conservative may be considered for the frail, elderly, and those with severe co-morbidity or polypharmacy. Rapid is for those requiring urgent management of severe pain, palliation, and significant prior use of cannabis.

- Chronic pain patients who were candidates for medical cannabis were also determined (Table 1).

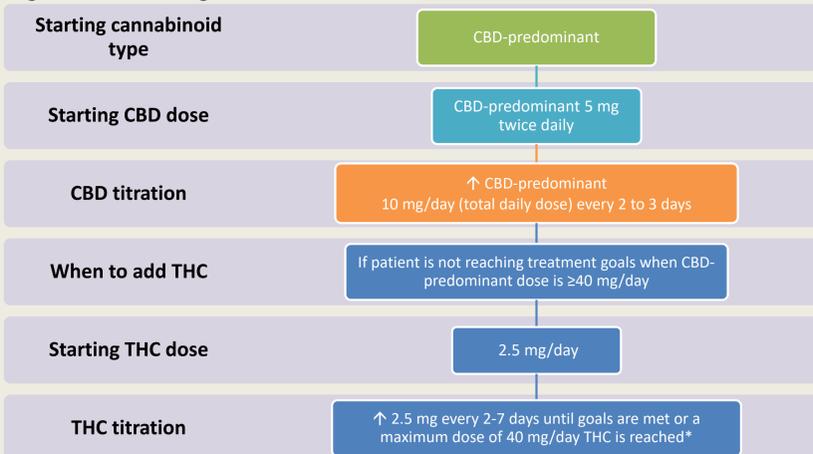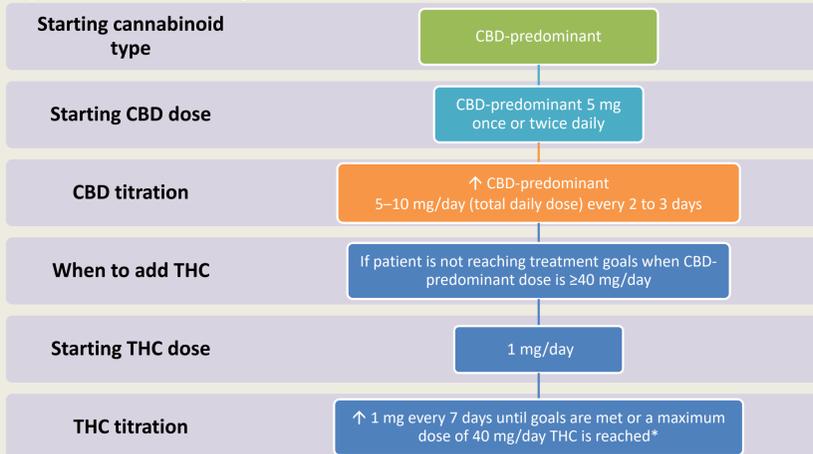Figure 2. Routine Dosing and Administration Protocol for Medical Cannabis

Starting cannabinoid type	CBD-predominant
Starting CBD dose	CBD-predominant 5 mg twice daily
CBD titration	↑ CBD-predominant 10 mg/day (total daily dose) every 2 to 3 days
When to add THC	If patient is not reaching treatment goals when CBD-predominant dose is ≥40 mg/day
Starting THC dose	2.5 mg/day
THC titration	↑ 2.5 mg every 2-7 days until goals are met or a maximum dose of 40 mg/day THC is reached*

Figure 3. Conservative Dosing and Administration Protocol for Medical Cannabis

Starting cannabinoid type	CBD-predominant
Starting CBD dose	CBD-predominant 5 mg once or twice daily
CBD titration	↑ CBD-predominant 5–10 mg/day (total daily dose) every 2 to 3 days
When to add THC	If patient is not reaching treatment goals when CBD-predominant dose is ≥40 mg/day
Starting THC dose	1 mg/day
THC titration	↑ 1 mg every 7 days until goals are met or a maximum dose of 40 mg/day THC is reached*

*Refer for expert consultation if considering >40 mg/day THC

Figure 4. Rapid Dosing and Administration Protocol for Medical Cannabis

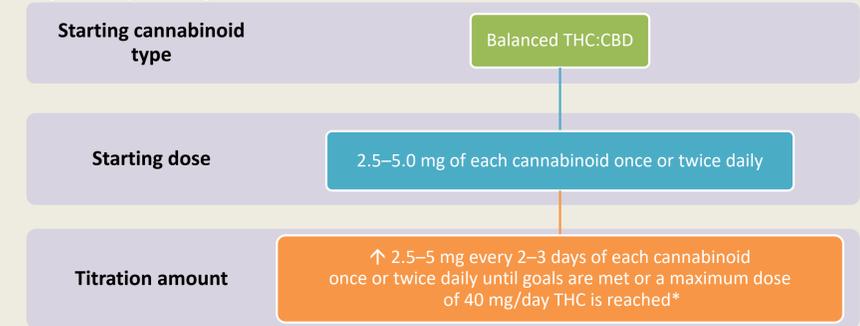|	
Starting cannabinoid type	Balanced THC:CBD
Starting dose	2.5–5.0 mg of each cannabinoid once or twice daily
Titration amount	↑ 2.5–5 mg every 2–3 days of each cannabinoid once or twice daily until goals are met or a maximum dose of 40 mg/day THC is reached*

Table 1. Patients with Chronic Pain who are Candidates for Medical Cannabis

Types of pain	• Mixed pain • Neuropathic pain • Inflammatory pain • Nociplastic pain
Avoid medical cannabis	• Pregnant/breastfeeding women, people with psychotic disorders
Age	• THC – no consensus on minimum age (risk > benefit in under 25 years) • CBD – no minimum age • No maximum age for THC or CBD

Drug-drug interactions	• Caution with:
	  • Anticoagulants
	  • Immunotherapy
	  • Clobazam

Dosage form	• Oral preferred for ease of dosing and safety

CONCLUSIONS

- Through a modified Delphi process it was possible to develop three practical protocols for the administration of medical cannabis to treat chronic pain.

- These recommendations may support clinicians and patients in achieving safe and effective dosing and administration of medical cannabis.

- Future studies are needed to confirm the validity and applicability of these protocols.

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