Comparison of the Risks and Benefits of Medical Cannabis in Charcot-Marie-Tooth (CMT) and Hereditary Neuropathy Pressure Palsies (HNPP) versus Chronic Pain Patients

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Background

• Charcot-Marie-Tooth (CMT) disease is a group of inherited sensory and motor neuropathies involving a loss of myelin and axonal dysfunction with a prevalence of 1 in 2,500.

• Pain is common in CMT and is described as "stabbing, shooting, achy, or pressure" [1].

•The evidence base for medical cannabis (MC) in chronic pain was rated as substantial [2].

•The primary objective of this study was to examine the risks and benefits of MC with CMT. Findings were contrasted with chronic-pain patients studied previously [3,4].

Methods

• *Procedures*: An online survey was administered. Participants were recruited from the Global Registry for Inherited Neuropathies or New England Dispensaries. IRB approval was obtained from Advarra and Maine Medical Center.

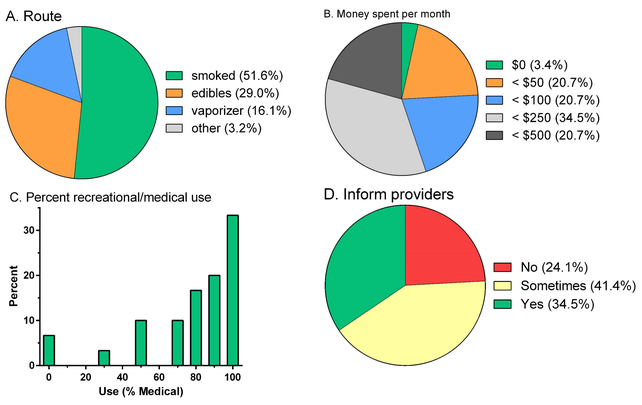
•*Participants*:

•CMT patients that used MC (N = 34, 64.7% female) were middle--aged (47.7 ±2.1, Min = 22, Max = 78) and predominantly (88.2%) from the US. One-third (32.4%) were certified for MC.

•CP patients reported pain from multiple sources including back/ neck (71.6%), neuropathic (34.3%), trauma (22.3%), post-surgery (19.7%), abdominal (12.5%), menstrual (5.1%), and cancer (1.4%).

•*Analysis*: Statistics were completed with Systat. Figures were prepared with GraphPad Prism.

Figure 1. Characteristics of Charcot-Marie-Tooth patients that use medical cannabis (N=34) including route of administration (A), money spent on cannabis each month (B), use pattern on a continuum from 100% recreational to 100% medical (C, mean = 77.7% + 5.1% medical), and whether patient informs providers about their use of cannabis (D).



Results

Figure. 2. Percent of dispensary member respondents, the majority with chronic pain, with a reduction in opioid pain medications, agents for anxiety, migraine, drugs to improve sleep, alcohol consumption, and antidepressants. Percent total is listed on each bar at the top and percent with that reduced use "a lot" is at the bottom. [a]$p < .0001$ versus antidepressants, [b]$p < .0005$ versus alcohol.

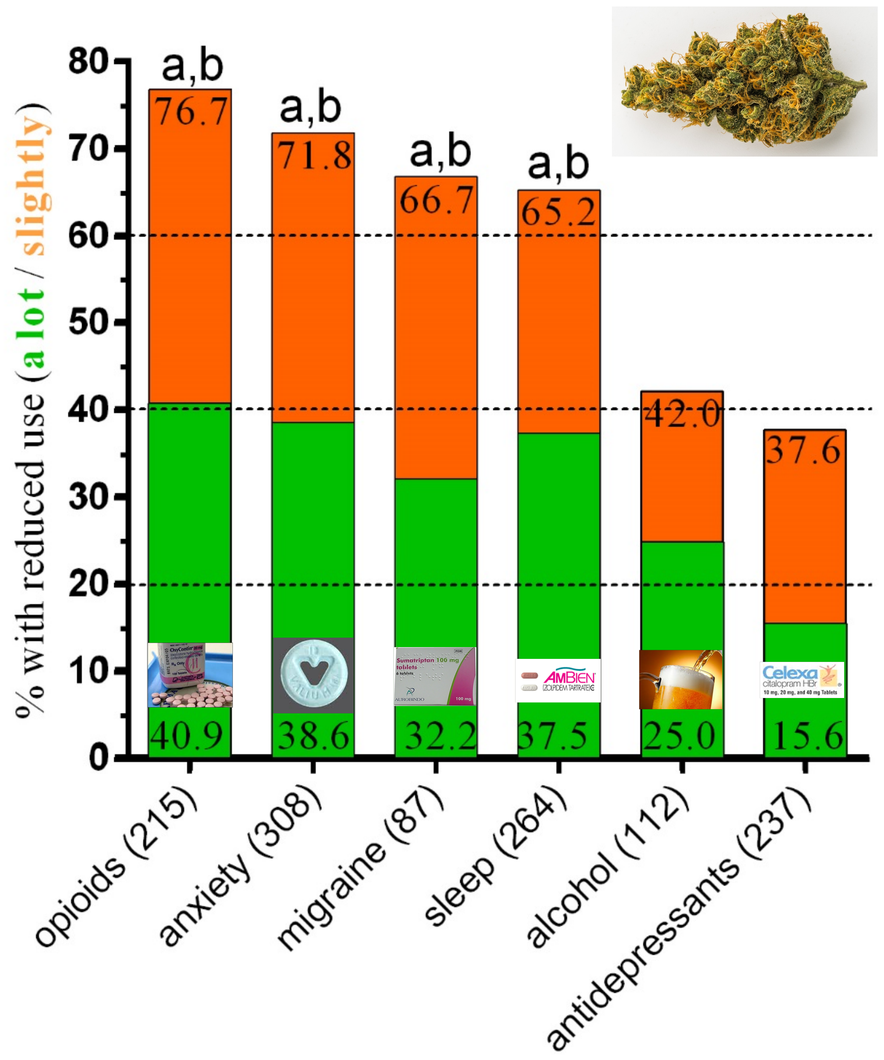


Table 2. Among the subset of respondents that regularly used opioids (N = 215), anti-anxiety medications (N = 308), migraine (N=87), sleep (N=264), alcohol (N=112), or antidepressants (N=237), the percent that reported needing a lot more medication, slightly more medication, no change, slightly less medication, or a lot less medication and the ratio of patients that needed more to less of each drug.

	a lot more	slightly more	no change	slightly less	a lot less	more: less
opioids	0.0%	2.3%	20.9%	35.8%	40.9%	1 : 33.4
anti-anxiety	0.7%	1.0%	26.6%	33.1%	38.6%	1 : 42.2
migraine	2.3%	0.0%	31.0%	34.5%	32.2%	1 : 29.0
sleep	0.0%	1.1%	33.7%	27.7%	37.5%	1 : 59.3
alcohol	0.0%	0.0%	58.0%	17.0%	25.0%	not applicable
antidepressants	0.0%	1.7%	60.8%	21.9%	15.6%	1 : 22.1
average	0.5%	1.0%	38.5%	28.3%	31.6%	1 : 39.9

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Figure 3. Responses (N = 20) to "How effective is medical cannabis in treating your symptoms of Charcot-Marie-Tooth? (left, Mean = 77.0 ± 2.1%). Responses (N = 1,365)to how effective is medical cannabis (0 to 100%) by type of chronic pain (right, *$p < .001$ versus trauma).

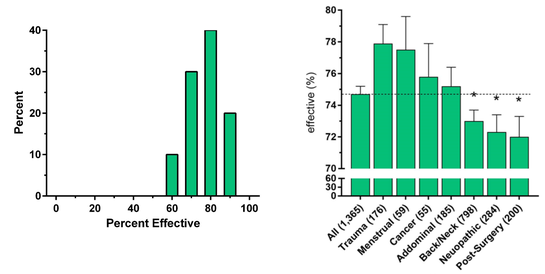


Figure 4. Qualitative representation of responses to "What is it that you like **least** about medical cannabis?" [4].

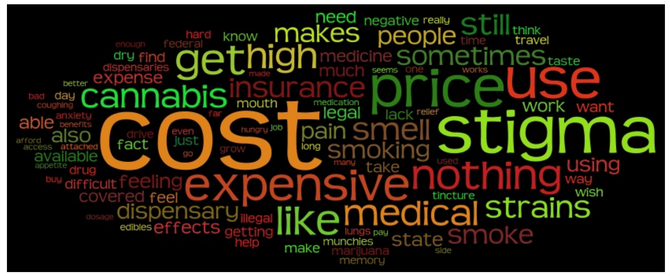
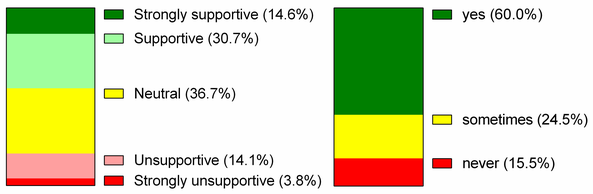


Figure 5. Over one-sixth of chronic-pain patients responded to "How would you describe the way healthcare providers, in general, treat your use of medical cannabis?", with "unsupportive" (left). An appreciable subset (40.0%) do not consistently inform their health care providers about medical cannabis (right).



Conclusions

• The substitution effect is a robust entity. Over three-quarters of CP patients receiving opioids reduced their use and two-thirds of patients receiving anti-anxiety, migraine, and sleep medication decreased their use.

•The biggest concern with MC may be economic. MC stigma may be an impediment to full-communication with health care providers.

•Although data collection is ongoing, the self-reported efficacy and limited adverse-effects for MC among CMP is promising.

Citations

1. Moore et al. Preliminary results for CMT patient-reported survey. *Peripheral Neuropathy Association Annual Meeting*.
2. Karst. Weighing the benefits and risks of medical marijuana use: A brief review. *Pharmacy* 2018; 6;6(4). pii: E128.
3. Piper et al. Substitution of medical cannabis for pharmaceutical agents for pain, anxiety, and sleep. *J Psychopharm* 2017; 31: 569-575.
4. Piper et al. Chronic pain patients' perspectives of medical cannabis. *Pain* 2017; 158:1373-1379.