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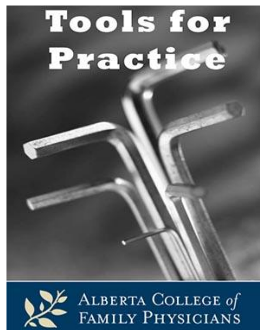

Missing "High" Quality Evidence: Medical Cannabinoids for Pain?

Clinical Question: Are medical cannabinoids (MC) effective for the treatment of pain?

Bottom Line: Evidence for inhaled marijuana for pain is too sparse and poor to provide good evidence-based guidance. Synthetic MC-derived products may modestly improve neuropathic pain for one in 11-14 users but perhaps not for other pain types. Additionally, longer and larger studies (better evidence) show no effect. Adverse events are plentiful (see next Tools for Practice).

Evidence:
>20 systematic reviews (60% in last two years). Results presented are statistically significant, ≥30% pain reduction versus placebo unless indicated.

- Any chronic pain: Systematic review of systematic reviews.[1]
  - Pain reduction (15 Randomized Controlled Trials (RCTs), 1,985 patients): 39% versus 30%, Number Needed to Treat (NNT)=11.
    - Larger (>150 patients) and longer (9-15 weeks) RCTs: No effect.
  - Mean pain improvement ~0.5 (0-10 scale, not clinically meaningful).[2]
- Neuropathic pain:
  - Inhaled MC (five RCTs, 178 patients):[3] NNT=6.
  - Any MC (15 RCTs, 1,619 patients):[4] NNT=14.
- Cancer pain (six RCTs):[5] Pain reduction not statistically significant.
- HIV neuropathy, smoked MC (two RCTs, 89 patients):[6] NNT=4.
- Multiple sclerosis pain (seven RCTs, 298 patients):[7] Mean pain improvement over placebo ~0.8 (0-10 scale, borderline clinically insignificant).
- Acute pain (seven RCTs): One positive, one negative, and five equivalent to placebo.[8]
- Versus medications: Cannabinoids no better with more adverse events (versus low-dose amitriptyline)[9] or inferior with similar adverse events (versus dihydrocodeine).[10]
- No difference in Quality of Life.[2,4,5]
- Very sparse evidence for back pain, fibromyalgia, or osteoarthritis.[11-13]

Context:

- Issues:
  - Cannabinoids generally adjunctive to other pain treatments.[1,2]
  - Quality often poor: Of 28 RCTs, two low risk of bias and 16 high risk.[2]
  - When assessed, unblinding common, likely exaggerating effectiveness.[6,14]
  - For inhaled marijuana, data on pain is very sparse and poor:[1]
    - Only five RCTs with 189 patients followed 6 hours to 12 days.
    - Represents <1% of the total patient-years studied of MC for pain.
- Prescribing guidance available through the College of Family Physicians of Canada[15] and multiple reliable sources,[16-19] including international sites (example[20]).
  - Health Canada provides clinician[21] and patient information.[22]

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