Comparing the Side Effects of Prescription Opioids and Medicinal Marijuana in the Treatment of Chronic Pain

Callie Glenn
cglenn@carroll.edu

Ryan Bopp
Carroll College - Helena, rbopp@carroll.edu

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## Comparing the Side Effects of Prescription Opioids and Medical Marijuana in the Treatment of Chronic Pain

**Callie Glenn and Ryan Bopp**
Carroll College Department of Nursing

### PICOT Question

In individuals aged 18-65 years who currently have chronic pain, how do the side effects of medical marijuana compared to those of opioid treatment affect quality of life for individuals treated in a time span greater than three months?

### Background

- According to the National Center for Complementary and Integrative Health (NCCIH) (2016), 25.3 million people or 11.2% of the United States population suffer from daily pain lasting over 3 months.
- Chronic pain comes in many forms and has a variety of treatment options, one of the more prominent and traditional being prescription opioids.
- Advancements in technology and legal reform have allowed medical marijuana to become an increasingly popular alternative to treatment with opioids.
- Currently in the United States, 29 States including Montana have legalized medical marijuana, 9 of those states having legalized recreational use of Marijuana.

### Study

<table>
<thead>
<tr>
<th>Study</th>
<th>Description</th>
<th>Results</th>
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<tbody>
<tr>
<td><strong>Efficacy of Inhaled Cannabis on Painful Diabetic Neuropathy (2015)</strong>&lt;br&gt;M. Wallace, T. Marcotte, A. Umiauf, B. Gouaux, J. Atkinson</td>
<td>A randomized, double-blind, placebo controlled crossover study; 16 subjects received treatment, reporting pain intensity, subjective highness, adverse effects, along with performing cognitive testing.</td>
<td>Adverse effects reported in this study were euphoria and somnolence. Analysis showed that the differences in the proportion of these AEs for high and medium doses were significant compared to the placebo.</td>
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<td><strong>Long-term use of opioids in 210 officially registered patients with chronic noncancer pain in Taiwan: A cross-sectional study (2017)</strong>&lt;br&gt;T. Lin, L. Ger, J. Pergolizzi, R. Raffa, J. Wang, S. Ho</td>
<td>Chronic pain patients completed a questionnaire focused on their perceptions of opioid treatment, side effects experienced, and daily functioning abilities.</td>
<td>Researchers found “concurrent pain relief and daily function improvement after taking opioids…but with considerable adverse effects, such as constipation, depression, and decreased sexual desire and satisfaction” (Lin, 2017)</td>
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<td><strong>Multiple Sclerosis and Extract of Cannabis: results of the MUSEC trial. (2012)</strong>&lt;br&gt;J. Zajicek, J. Hobart, A. Slade, D. Barnes</td>
<td>144 received Cannabis Extract, 135 received placebo. A 12 week study conducted on MS patients studying change in overall quality of life.</td>
<td>AE of this group were dizziness, disturbance in attention, balance disorder, somnolence, dry mouth, nausea, diarrhoea, fatigue, asthenia, feeling abnormal, urinary tract infection, disorientation, confusional state and fall.</td>
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<td><strong>Opioid-Induced Constipation Survey in Patients with Chronic Noncancer Pain (2017)</strong>&lt;br&gt;R. Rauck, K. Hong, J. North</td>
<td>A total of 489 participants were surveyed in PainPathways magazine (question #5). “Have you ever taken less opioid medication than prescribed or stopped taking it because of side effects?”</td>
<td>Respondents to question five of the survey were given four choices and asked to check all that apply. Of 220 patients, 90.0% constipation, 22.3% sedation, 26.4% nausea and 20.5% vomiting.</td>
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### Clinical Application to Nursing

- **Encourage providers to be more aware of various treatment options for chronic pain.**
- **Educate patients on the benefits and the disadvantages of both medical marijuana and traditional opioid analgesic treatment.**
- **Increased knowledge of the differences in these treatments and the types of patients they might be more effective for treating.**
- **Improved patient autonomy in determining the best option for their individual needs.**

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Due to the specificity of this PICOT question, the researchers were unable to locate research articles evaluating the side effects of both medical cannabis and opioids in the treatment of chronic pain in the same study. It was determined that the best way to gather information on this subject would be to analyze research articles pertaining to the side effects of each treatment method separately. Due to this, the researchers will not be able to conclude whether the data is conclusive to one treatment option or the other.