Interventions for Opioid Use Disorder and Chronic Pain

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Opioid Use Disorder and Chronic Pain

• Most studies are focused on
  • OUD only
  • Pain only

• Challenge: examine variables from both (pain and craving)
  • Heterogenity in measurement of opioid craving (MacLean et al., 2020)
  • Chronic pain associated with a 3-fold higher odds of reporting craving in past week (aOR=3.10; 95% CI:1.28 - 7.5, p-value 0.01) (Tsui et al., 2016)
  • Patient under-reporting opioid craving (Wasan et al., 2009)
Connection between Chronic Pain and Craving

• Chronic pain patients on opioids, pain severity was modestly associated with opioid craving (Martel et al., 2016)
  • Increased opioid craving in the setting of chronic pain is a mechanism that leads to relapse. (Barry et al., 2009b; Rosenblum et al., 2003; Sheu et al., 2008; Voon et al., 2015)

• Opioid craving -- predict lapse to opiate use among persons with treated OUD (McHugh et al., 2014; Moore et al., 2014; Northrup et al., 2015; Tsui et al., 2014; Wasan et al., 2009)

• Chronic pain is an important factor that can adversely impact substance use treatment outcomes among patients with OUDs, even those on opioid agonist treatment (Tsui et al., 2014)
Evidence-based Chronic Pain Interventions

• Non-Pharmacological Non-Interventional Modalities

• Non-Opioid Pharmacologic Interventions

• Opioid Interventions

• Patients As Stakeholders
Non-Pharmacological Modalities (Non-Interventional)

Non-Pharmacological, Non-Interventional Interventions

• Five common chronic pain conditions
  • Chronic low back pain (CLBP)
  • Chronic neck pain
  • Osteoarthritis of the knee, hip, or hand (OA)
  • Fibromyalgia
  • Tension headache

• Definitions
  • Exercise: Muscle performance, mobility, muscle re-education, aerobic exercise
  • ST: Short term (1 - < 6 months)
  • IT: Intermediate (≥ 6 - < 12 months)
  • LT: Long term (≥ 12 months)
  • Insufficient or very low: Evidence either is unavailable or does not permit a conclusion.
  • Low SOE: Low confidence that the evidence reflects the true effect.
  • Mod SOE: Moderate confidence that the evidence reflects the true effect. (Global Spine J. 2015; 5(6):539)
Non-Pharmacological, Non-Interventional For Pain

• Exercise:
  • OA – **pain and function** [small to intermediate] (Mod SOE, Low SOE; ST, IT, LT)
  • CLBP – **function** (Mod SOE; ST)
  • CLBP – **pain** (Low SOE; ST, IT)
  • Chronic Neck Pain – **Function** (Low SOE; LT)
  • Fibromyalgia – **Function** (Low SOE, ST; Mod SOE, IT)
  • Fibromyalgia – **Pain** (Mod SOE; ST, IT)
Non-Pharmacological, Non-Interventional For Pain (Cont.)

• Massage:
  • CLBP – Pain (Mod SOE; ST)
  • CLBP – Function (Mod SOE; ST)
  • Chronic Neck Pain – Pain and Function (Low SOE; ST)

• Acupuncture:
  • CLBP – Function (Low SOE; ST, IT)
  • CLBP – Pain (Mod SOE; ST)
  • Chronic Neck Pain – Function (Low SOE; ST, IT)
  • Fibromyalgia – Function (Mod SOE; ST, IT)
Non-Pharmacologic, Non-Interventional For Pain (Cont.)

• Multidisciplinary rehabilitation:
  • CLBP – **Function** and **Pain** (Mod SOE; ST, IT)
  • Fibromyalgia – **Function** (Low SOE; ST, IT, LT)
  • Fibromyalgia – **Pain** (Low SOE; IT)

• Yoga:
  • CLBP – **Function** (Mod SOE; ST)
  • CLBP – **Pain** (Low, Mod SOE; ST, IT)
Non-Pharmacologic, Non-Interventional For Pain (Cont.)

- Spinal Manipulation:
  - Chronic tension headache – **pain** moderate improvement (insufficient SOE; ST)
  - CLBP – **Function** (Low SOE; ST, IT)
  - CLBP – **Pain** (Mod SOE; IT)

- Low-level laser therapy
  - Chronic Neck Pain – **Pain** and **Function** (Mod SOE; ST)
  - CLBP – **Pain** and **Function** (Low SOE; ST)

- Cognitive Behavioral Therapy and/or Mindfulness-based stress reduction/Psychological therapy:
  - CLBP – **Pain** (Mod SOE, Low SOE; ST, IT)
  - Fibromyalgia – **Pain** and **Function** (Low SOE; ST, IT)
  - OA knee – small improvement on **pain** and **function** (Low SOE; ST)

Non-opioid Pharmacologic Interventions

Neuropathic Pain

• Small improvement in **pain** and **function** (ST)
  • SNRI antidepressants
    • Duloxetine – moderate improvement on Quality of Life

• No improvement in **function**
  • Pregabalin/gabapentin

• No clear effects on pain, function, and Quality of Life
  • Capsaicin
  • Cannabis
  • Amitriptyline – diabetic neuropathy (McDonagh et al., 2020, p. ES-7, vii)
Fibromyalgia

- Small improvement on pain, function, quality of life (ST)
  - SNRI antidepressants
    - Duloxetine, milnacipran
    - Pregabalin/gabapentin
- Moderate improvement on pain, function, quality of life (IT)
  - Memantine
  - Duloxetine (pain and quality of life)
  - Milnacipran (pain and quality of life)
- No clear effects on pain, function, quality of life (IT)
  - Amitriptyline
  - Cyclobenzaprine
Osteoarthritis, Low Back Pain, Inflammatory Arthritis

• Osteoarthritis
  • Small improvements in pain and/or function (ST)
    • SNRI antidepressants
      • Duloxetine (small improvement in quality of life)
  • No clear effects on pain and/or function
    • Acetaminophen

• Low Back Pain
  • Small improvements in pain and/or function (ST)
    • SNRI antidepressants
  • No improvement in function
    • Duloxetine

• Inflammatory arthritis
  • Small improvements in pain and/or function
    • NSAIDs
Withdrawal from Non-Opioid Pharmacology treatments

• Large increase in ADE
  • Pregabalin (blurred vision, cognitive effects, dizziness, peripheral edema, sedation, weight gain)
  • Gabapentin (blurred vision, cognitive effects, sedation, weight gain)

• Dose reduction to reduce ADE risk
  • SNRI antidepressants

• Coronary events – small and moderate increases in short and long term
  • NSAIDs

• Conclusion – careful consideration of patient characteristics is needed in selecting nonopioid drug treatment
Opioids Treatment for Chronic Pain

Opioid Interventions for Chronic Pain

• Outcomes
  • No difference: opioids compared to nonopioid medications
    • Pain
    • Function
    • Mental Health
    • Sleep
    • Depression
  • Little improvement when opioid and nonopioid combined
    • Pain

• Risk for ADE
  • Opioids vs Placebo
    • GI, somnolence, dizziness, pruritis
  • Co-prescribing benzodiazepines and gabapentinoids increased risk of overdose vs opioids alone
    • Gabapentinoid studies: low SOE, 3 observational studies
Opioid Interventions (cont.)

• Observational studies compare no opioid use and dose-dependent risk
  • Increased risk of discontinuation compared to no opioid due to
    • Opioid abuse or dependence diagnosis
    • Overdose
    • All-cause mortality
    • Fractures (no evidence of dose-dependent risk)
    • Falls (no evidence of dose-dependent risk)
    • Myocardial infarction
  
  • No RCT to evaluate intermediate/long-term benefits vs placebo
Opioid Intervention (Cont.)

• Lacking evidence
  • Effectiveness and harms of alternative dosing strategies
  • Effects of risk mitigation strategies
    • except naloxone associated with decreased ED visits
  • Benefits/harms of opioid therapy in patients’ high risk for OUD

• Inconsistent evidence
  • Diagnostic accuracy for various risk prediction instruments

• Limited evidence
  • Differences between long and short-acting opioid
    • Long-acting opioids were associated with increased risk of OD
Buprenorphine & Methadone

• No difference between methadone and buprenorphine (1 RCT N=54) on patients with opioid dependence due to PO for chronic pain (Neumann et al., 2013)
  • Study retention, pain, function, Utox.
  • Long-term, low-dose methadone or buprenorphine/naloxone treatment produced analgesia in participants with chronic pain and opioid addiction (Neumann et al., 2013)

• Buprenorphine maintenance better outcome than tapering buprenorphine
  • Screened out patients on opioids for pain. Taper associated with higher rates of Utox +, > days/week illicit opioid use, fewer maximum consecutive weeks of abstinence, less likely to complete the trial (Fiellin et al., 2014)
  • Patients on opioids for pain and OUD. Study stopped after N=12, due to poor taper outcome on participants. 6 month follow up on those on maintenance showed improved pain control and function (Blondell et al., 2010).
What patients ask for...

• Confidence in health care team when treating both addiction and pain
  • “... because they care, I care”

• “Just because I’m an addict doesn’t mean I don’t have pain”

• Best outcome
  • “I’ve really great doctors that I’m working with now that understand my addiction and understand that I do need to control my pain.”
  • Supportive and caring relationship
  • Open and honest communication: Patients experienced less stress
  • Pain treatment
  • Had more ability to cope with pain, even when pain intensity was high