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)

- Skelly et al. Noninvasive Nonpharmacological Treatment for Chronic Pain: A Systematic Review Update. Comparative Effectiveness Review No. 227. April, 2020. DOI: https://doi.org/10.23970/AHRQEPCCER227

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)

(Skelly et al. (2020). Noninvasive Nonpharmacological Treatment for Chronic Pain: A Systematic Review Update. Comparative Effectiveness Review No. 227. DOI: https://doi.org/10.23970/AHRQEPCCER227)

Non-opioid Pharmacologic Interventions

- McDonagh MS, Selph SS, Buckley DI, Holmes RS, Mauer K, Ramirez S, Hsu FC, Dana T, Fu R, Chou R. Nonopioid Pharmacologic Treatments for Chronic Pain. April 2020. DOI: https://doi.org/10.23970/AHRQEPCCER228.

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

- Chou R, Hartung D, Turner J, Blazina I, Chan B, Levander X, McDonagh M, Selph S, Fu R, Pappas M. Opioid Treatments for Chronic Pain. April, 2020. DOI: https://doi.org/10.23970/AHRQEPCCER229.

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

  (St. Marie, B. (2014). Healthcare experiences when pain and substance use disorder coexist. *Pain Medicine, 15*,12,2075-86)