Cognitive Behavioral Therapy for OUD/SUD

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The Epidemiology of Pain

80% of all MD visits include the *complaint* of pain — Turk & Gatchel 1996

Over 1/3 of Primary Care visits are for the *primary* complaint of pain — Upshur et al. 2010

Up to 50% of US adults have pain *at any time*

Gatchel et al. 2007; Elliott et al 1999; Walker 2000

Psychosocial factors strongly contribute to pain onset, severity, chronicity and disability — Van Dorsten & Weisberg 2011, Van Dorsten 2018

Most expensive 20% of patients account for 88% of all healthcare costs — Ashe et al. 2001

The combination of opioid abuse and overprescribing claimed more lives in TWO YEARS than the entire Viet Nam War

National Center for Health Statistics 2020; Murphy & Rafie 2021

Psychosocial Factors Affecting Medical Treatment/Surgical Outcome

Mood (Anxiety, Depression)

Somatization

Unrealistic Treatment Expectations

Passive Coping / Catastrophizing

Social Reinforcement of Pain Behavior/Disability

Activity Restriction/Fear Avoidance of Activity

Work-Relevant Factors (Job Dissatisfaction, Heavy Job Demands, WKCP)

Low Education

High Levels of Pre-Procedural Pain

Van Dorsten 2018; Block et al. 2014, Den Boer et al. 2006,Harris et al. 2005, Block 2013

Psychosocial Factors Associated With Transition from Acute to Chronic Pain

Depression/Anxiety

Somatization

Chronic Distress in Daily Life***

Passive Coping /Catastrophizing

Fear Avoidance of Activity

Several Cumulative Traumatic Life Events

Early Belief That Pain Would Be Permanent

Work-Relevant Factors (Job Dissatisfaction, Heavy Job Demands, WKCP)

Negative Expectations for Recovery

Perception of Multiple Lifestyle Changes Secondary to Pain

Apkarian et al. 2013; Shipton 2011; Casey et al. 2008; Pincus et al. 2002; Hassenbring et al. 2001

Psychosocial Factors Associated With Chronic Opioid Use or Misuse

Depression/Anxiety Disorder (Panic, Social Anxiety, Agoraphobia)

Somatization

Multiple Pain Complaints

Chronic Distress in Daily Life – Acute Daily Stressors (50% visit increase)

Passive Coping/Catastrophizing

Greater Levels of Subjective Disability

Low Rated Health Status

Low Educational Level

Seghal et al. 2012; Hojsted et al. 2010; Manchikanti et al. 2007

Summary of Most Predicting Psychosocial Risk Factors Across All Categories

Mood – Anxiety, Depression

Somatization

Chronic Distress in Life – Acute Daily Stressors

Passive Coping – Catastrophizing

Activity Restriction – Fear Avoidance of Activity

Negative/Unrealistic Expectations for Recovery

Low Social Support

Work Factors (Job Dissatisfaction, WKCP injury)

Harris et al. 2005 - 3.89 odds ratio

Perception of Life Upheaval Secondary to Pain

Fear Avoidance of Activity
"Kinesiophobia"

Avoidance of adaptive activity stemming from the maladaptive belief that activity will produce actual tissue damage, physical re-injury, or uncontrollable pain levels

Fear Avoidance/Kinesiophobia: SO WHAT?

Fear avoidance strongly predicts functional disability in both adults and children!

Pain-related fear shown to be more disabling than pain severity!

Can this phenomenon be treated?

CBT/In vivo exposure to feared activities more effective than education, PT, graded activity increases

Vlaeyen et al. 2002, Linton et al. 2002, Lohnberg 2007

Maladaptive Coping
Pain "Catastrophizing"

Tendency to resort to dramatic or catastrophic thinking when one is in pain, including hopelessness about ability to control pain

Pain "Catastrophizing": SO WHAT?

Tendency to catastrophize shown to correlate with:

- Pain intensity, perceived disability, medication use, hopelessness, referrals to specialists, depression, anxiety, and activity interference

  Bishop & Warr 2003, Severeijns et al. 2004, Turner et al. 2001

- Can this phenomenon be treated?

  CBT in conjunction with multimodal increase in activity Schutz et al. 2018

Somatization and Somatoform Disorders

Commonly referred to as *Medically Unexplained Symptoms* – diffuse physical symptoms for which there are no confirmatory biological, pathological or physical findings

Nezu et al. 2001

Constitute a prevalence of 10-25% of ALL primary care visits with healthcare costs exceeding $100 billion annually

Gureje 1997; Ormel 1994; Spitzer 1994; Barsky 2005

Strong association with mood disorders, over 50% have a co-morbid DSM-V diagnosis

Allen et al. 2001; Simon & Von Korff 1991

Over two times the annual cost of non-somatizing patients; Lifetime healthcare costs 6-14 times the US average

Barsky 2005; Smith et al. 1986

25% of all physician visits are for physical complaints that lack a clear organic etiology

Gureje 1997

Psychosocial Factors Associated With Somatization – High Medical Utilization

Low Social Support***

Chronic Distress in Life – Acute Daily Stressors (increase up to 50%)***

Multiple Unexplained Pain Complaints with Inconsistent Findings

Depression/Anxiety

Passive Coping /Catastrophizing

Fear Avoidance of Activity

More Cumulative Traumatic Life Events

Pessimism/Negative Expectations for Recovery

Perception of Multiple Lifestyle Changes Secondary to Health

Gaynes 2007; Katon 2001; Bair et al. 2003; Gureje et al. 2008; Woolfork & Allen 2007

Influence of Mood on Medical Treatment Outcome

Depression and Anxiety Disorders

INCREASED:

- Health care utilization, MD/ER visits
- Medication use (3-6 fold increase in opioid prescriptions)

Reid et al. 2002; Sullivan et al. 2005

- More likely to be written an opioid than anti-depressant — Doan 1989
- Premature treatment drop-out, relapse after treatment
- Sedentary activity, alcohol/drug use

- Number of health and pain complaints
- Pain severity
- Post-operative pain
- Duration of pain
- Functional limitation and disability

Adapted from Van Dorsten 2018

Non-Medical Prescription Opioid Use In US Adults Over the Age of 18

Overall Non-Medical Opioid Use Rate: 4.1-4.7 %

- Ages 12-17: 2.8-3.9 %
- Ages 18-25: 5.5%
- Ages 26 and Over: 3.4%

Overall Prescription Opioid Use Disorder Rate: 0.6-0.9%

Prescription Medication Abuse Overuse or Illicit Drug Use in Patients With Pain

Drug Abuse: 18-41% of chronic pain patients receiving opioids

Illicit Drug Use in CPP: 14-16% in those without controlled substance prescriptions; 34% in those with controlled substance prescriptions

Estimated Prevalence of ANY Drug Overuse, Abuse, or Divergence > 40% in CPP

Who's Most Likely to Be Written Opioids for Pain?

Females

Multiple pain complaints (3-4 or more)*

High Medical Co-Morbidity

High Psychiatric Co-Morbidity*

Highest Demonstration of Clinical Distress*

Mood Disorder*

Sullivan 2010 ; Morasco et al. 2010

Who's Most Likely to Misuse?

Evidence is "moderate" at best

Initial evidence suggests:

- Males
- Younger age
- Low Income
- Low Education
- History of Drug/ETOH misuse/arrests*
- Mood Disorder*
- Baseline/Treatment UDT problems*

DSM-V-TR 2022; Turk et al. 2008

Other Clinical Peculiarities

Most likely to be written opioids? Highest distress

Most likely to remain on chronic opioids?

- Those on highest doses – 120 mg equivalence
- Those initially using opioids for >90 days! (67% remain)

Martin et al. 2010

Are prescribers more vigilant with this group?

- NO differences in UDT testing, use of long vs short-acting opioids, use of other therapies, early refills, more frequent office visits

Morasco et al. 2010; Starrels et al. 2010

Aberrant Drug-Related Behaviors

- More "Predictive" of Addiction/Diversion
  - Selling prescription drugs
  - Lost/Stolen scripts
  - Prescription forgery
  - Stealing/borrowing drugs from others
  - Obtaining prescription drugs for non-medical sources
  - Concurrent abuse of illicit drugs
  - Multiple unsanctioned dose escalations

Passik and Portenoy 1998

Opioid Use Disorder

DSM-V TR (2022). American Psychiatric Association.

A problematic pattern of opioid use leading to clinically significant impairment or distress, as manifested by at least two of the following and occurring within a 12-month period:

- Opioids taken in larger amounts or over a longer period of time than intended
- Persistent desire or unsuccessful effort to cut down or control opioid use
- Great deal of time spent in activities to obtain or use opioid or recover from its effects
- Craving or strong desire to use
- Recurrent use resulting in a failure to fulfill major role obligations at work, school, home
- Continued use despite persistent or recurrent social on interpersonal problems caused by effects of opioids
- Important social, occupational, or recreational activities are given up or reduced because of opioid use
- Recurrent use which is physically hazardous
- Continued use despite persistent physical or psychological problems related to the substance

Opioid Use Disorder

DSM-V TR (2022). American Psychiatric Association.

Tolerance as defined by:

- Need for markedly increased amount of opioid to produce desired effect
- Markedly diminished effect with continued intake of same amount of substance

Withdrawal as defined by:

- Characteristic opioid withdrawal syndrome
- Opioid specifically taken to reduce/avoid withdrawal symptoms

Mild, Moderate, Severe based upon number of symptoms

Psychological Predictors of Opioid Abuse and Illicit Drug Use in Patients With Pain

Manchikanti et al. (2007)

500 consecutive patients with pain being prescribed stable doses of opioids.

Patients evaluated for depression, anxiety, somatization, opioid abuse and illicit drug use during pain management treatment.

Patients demonstrated depression (59%), anxiety (64%) and somatization (30%). Drug abuse significantly higher in patients with depression (12% vs 5% without), illicit drug use (22% of women with depression vs 14% without) and higher in men with somatization (22% vs 9% without)

Psychological Predictors of Opioid Abuse and Illicit Drug Use in Patients With Pain

Martel et al. (2020).

194 patients with chronic pain prescribed long-term opioid therapy enrolled in longitudinal cohort study over six months.

Heightened pain intensity levels associated with greater likelihood of opioid misuse, but this effect no longer present when controlling for depression, anxiety and catastrophizing.

High levels of catastrophizing associated with running out of opioids early. Catastrophizing powerfully predicts pain intensity ratings, poor response to opioids, increased opioid use, misuse of opioids, long-term opioid use, and surgical failure

Darnall 2014; Severeijns et al 2001; Weissman-Fogel et al. 2008; Papaioannou et al. 2009; Martel et al. 2013.

Common Components of CBT-Based Treatment for OUD Protocols

Motivational Interviewing (Improving readiness to attempt change)

Behavior Analysis ABC's: Antecedents, Behaviors and Consequences of Drug Use

Contingency Management (reinforcing periods of abstinence/negative urine tests)

Psychoeducation re: pain, medications, OUD, behaviors

Coping with Craving (mindfulness, distraction, relaxation, considering consequences)

Relaxation training (pain, anxiety, sleep applications)

Cognitive restructuring (cognitive errors/attributions)

Exercise and Behavioral activation

Assertiveness Training (practice assertive communication RE: refusal, talking with providers)

Relapse prevention (anticipating/planning for high-risk circumstances/relationships for relapse)

Self-help groups and Support Systems

Coping with shame and guilt over history of addiction

Barry et al. 2019; Lent et al. 2020; Murphy & Rafie 2021

Doesn't Everyone Get Treatment for OUD?

Wu et al. (2016).

Studied 6125 individuals with OUD to determine the prevalence and correlates of past-year use of alcohol/drug treatment and opioid-specific treatment.

Among those with OUD, 81.9% had prescription OUD only (versus opioid and another illicit drug), 80.1% had another substance-use disorder (SUD; e.g., alcohol) and 28.7% with MDD.

Of this OUD group, 26.2% used any alcohol/drug treatment in the past year and 19.4% used opioid-specific treatment.

The vast majority of OUD use no OUD treatments, and less than half seek any treatment in a given year

Han et al. 2018; Blanco et al. 2013

Efficacy of OUD Treatments

Medication-Assisted Treatments

A paucity of information exists about the comparative effectiveness of medications for OUD, and no studies have identified predictors of which patients might respond better to which medication

Blanco & Volkow 2019

Medications lead to better retention and outcomes, making these medications the standard of care for treating opioid use disorder

Blanco &Volkow 2019; Timko et al. 2016

Methadone

Methadone

Longer acting full agonist of the mu receptor, causes less intense withdrawal symptoms, can block the euphoric effects of other opioids.

Methadone shown to be extremely effective with up to 80% success in abstinence, job reemployment and community reintegration for heroin addicts at doses of 90-120 mg. Cost ranges ~ $6500/yr. Chou et al. 2016

Buprenorphine

Buprenorphine

Gold standard since its development in 1960. Clinical trials have shown this drug to be extremely effective: At mild doses (2-6 mg/day) – helps treatment retention in 25% of patients; moderate doses (6-16 mg/day) – number rises to 33% of cases; high doses (> 16 mg/day) – retention increases to 50% of patients Raleigh 2017

Added benefit is requires less frequent administration and lower cost estimated at $112/wk or $6000/year NIH 2021; Coe et al. 2019

Cognitive Behavioral Therapy

Cognitive Behavioral Therapy

CBT with extensive history of benefit in treating psychological disorders including depression, anxiety, and substance use disorders APA 2017; McHugh et al. 2010

Multiple assessment and treatment components with direct applicability to substance and opioid use disorders Gregory & Ellis 2020; Pan et al. 2015; Barry et al. 2019

Despite this, recent literature reviews question the ability of psychosocial interventions to add substantial benefit to **Buprenorphine** therapy for OUD

Brown 2018; Dugosh et al. 2016; Sokol et al. 2018; Amato et al. 2011

Relevant Treatment Literature

Marsden et al. (2019).

136 individuals with OUD on oral maintenance opioid agonist therapy, but with at least one positive urine drug screen for non-prescribed opioids or cocaine within the last month.

Randomized to either CBT/Psychosocial Intervention group versus 137 Control group. Primary outcome was abstinence from illicit or non-prescription opioid within the last month over a treatment of 18 weeks.

RESULTS: 22 of 135 (16%) randomized to CBT were successful with treatment compared with 9 or 135 (7%) in control group. CBT helped treatment resistant patients refrain from relapse to cocaine and non-prescription opioids.

Relevant Treatment Literature

Zhong et al. 2015.

180 individuals recently released from detention for OUD in Shanghai China. Participants randomized to a 1-year comprehensive psychological intervention **(CPI) versus** usual community care (UCC). Variety of mood, addiction severity, and quality of life measures used in conjunction with urine drug screening to determine efficacy/abstinence.

RESULTS: CPI group demonstrated lower scores on somatization, obsessive-compulsive traits, anxiety, phobic anxiety, paranoia and psychoticism at one year along with improvement physical and emotional quality of life.

Relevant Treatment Literature

Mutter et al. (2023).

CBT versus CBT PLUS Medication (CBT/M); Buprenorphine, Methadone or Naltrexone) for OUD.

Studied 71,571 patients being treated for OUD between 2010-2019 from an insurance/medication refill perspective. Evaluated CBT only (71%), medication only (16%) and CBT plus Med (14%) – *patient choice* - following inpatient treatment for OUD on several measures including: inpatient or ED encounter for opioid overdose; inpatient or ED encounter for self-harm, and whether a patient had an opioid script filled within the 90 day "high-risk" window post-treatment.

RESULTS: Relative to CBT-only patients, those who initiated treatment with medication-assisted therapies had lower risk of all three outcomes.

Risk for Relapse with Opioid Dependence or Abuse

Clark et al. 2015

- Clinical trials show MAT more effective than behavioral treatments along for OUD
- OUD a chronic disease state which is *often treated for only short periods*
- This study followed 52,278 Medicaid claims for opioid abuse or dependence surveying treatment for OUD including Buprenorphine (10,999), Methadone (14,089) and CBT only (17,274)
- Followed cases from 2004-2010 and defined relapse as any claims for detoxification, inpatient admission with dx of SUD, or ER visit with primary diagnosis of SUD
- RESULTS:
- Use of any opioid agonist therapy (OAT) decreased relapse risk by 50% over CBT alone
- OAT expenditures per month were $153-$233 LOWER than for CBT alone

Risk for Relapse with Opioid Dependence or Abuse

Clark et al. 2015

- RELAPSE RISKS:
  - Co-occurring alcohol abuse/dependence (22.9% of cases) QUADRUPLED risk of relapse
  - Other Non-Opioid drug abuse/dependence (34.2% of cases) DOUBLED risk of relapse
  - Severe mental illness added 80% increased risk of relapse

  - Each year of active treatment = 30% lower risk of relapse
  - Prior substance abuse treatment (prior to the current episode) did NOT lower risk of relapse
  - 34.8% of patients relapsed during active treatment

Relevant Treatment Literature

Moore et al. (2016).

CBT plus **Buprenorphine** Treatment for prescription drug abuse in primary care 24-week randomized trial.

Comparing physician/medication management (PM) versus PM PLUS CBT (PM-CBT) for primary care buprenorphine/naloxone treatment of OUD.

PM-CBT patients had more than twice the mean number of weeks of abstinence for all drugs (7.6) than those assigned to PM only (3.6; P = .02)

Relevant Treatment Literature

Gregory et al. (2020).

CBT and Buprenorphine for OUD: Systematic Review and Meta-Analysis.

671 studies originally identified, FOUR met the inclusion criteria. Variety of CBT-based therapy components included motivational interviewing, behavioral therapy, psychotherapy, group psychotherapy, intensive outpatient psychiatric therapy, opioid treatment, cognitive-behavior therapy.

RESULTS: suggest the combination of GROUP CBT plus Buprenorphine therapy produced moderate and statistically significant reductions in opioid use. INDIVIDUAL CBT plus Buprenorphine not found to have any significant effect.

Relevant Treatment Literature

Barry et al. (2019).

12 week pilot study of 40 **Methadone**-maintenance patients randomly assigned to manualized CBT (n = 21) or Methadone drug counseling (MDC; "usual care"). Mean number of session attended were 8.4 for CBT (of 12 total) and 3.8 (of four) for MDC.

RESULTS: Mean number of patients abstinent in each 4-week assessment window was higher for CBT plus Methadone than for MDC only ($p = .02$). Patient satisfaction rating was 6.6 (out of 7) for CBT condition and 6.0 for MDC. Overall patients reported improved outcomes, but did not differ among conditions.

Treatment Barriers to Medication Therapy

Stigma

Healthcare and social care workers hold strongly negative biases towards patients with SUD. Nurses make shorter visits with more-task oriented and less personal approach to care

Van Boekel et al. 2013, Peckover et al. 2007

Legal/Legislative Restrictions on Pharmacological Treatments

Laws and regulations place restrictions on providers wishing to write pharmacologic treatments, cap number of patients being treated under the Narcotic Addiction Treatment Act of 1974

SAMHSA 2020; Kleinman & Morris 2021

Inadequate Training

6% of US physicians received DEA waiver to prescribe Buprenorphine, despite time commitment of 8 hrs for MD and 24 hrs for Nurses, no cost, easy to access. More than 50% of all US counties do not have ONE MD with buprenorphine authorization. Physicians in primary care and addiction cite inadequate knowledge, education and experience with medical school training and the waiver process seen as insufficient

Sharfstein & Olsen 2019; Haffajee et al. 2018

Treatment Barriers to Cognitive Behavioral Therapy

Time Intensity

Requires ongoing treatment – individual or group with high levels of patient participation

Limited Number of Trained Providers

Reimbursement for Services

Summary

Persistent/Increasing Numbers of Individuals with Opioid Use Disorder Who Might Benefit from Treatment

Substantial Barriers Exist to Treatment

Psychosocial Factors Strongly Predict and Influence Development of OUD

Combination Treatments Appear Most Successful at Present

Significantly More Treatment Outcome Research Needed to Better Predict Who May Benefit from Which Treatments