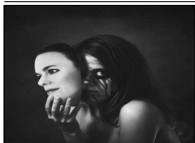




Unveiling the Mask: The Relationship of Chronic Pain and Psychopathology

DAVID COSIO, PHD, ABPP



Biography

David Cosio, PhD, ABPP is the psychologist in the Pain Clinic and the CARF-accredited, interdisciplinary pain program at the Jesse Brown VA Medical Center, in Chicago. He received his PhD from Ohio University with a specialization in Health Psychology in 2008. He completed a behavioral medicine internship at the University of Massachusetts-Amherst Mental Health Services and a Primary Care/Specialty Clinic Post-doctoral Fellowship at the Edward Hines Jr. VA Hospital in 2009. Dr. Cosio has done several presentations in health psychology at the regional and national level. He also has published several articles on health psychology, specifically in the area of patient pain education. He achieved specialist certification in Clinical Health Psychology by the American Board of Professional Psychology in 2017.

There is no conflict of interest and nothing to disclose.



Disclosure

Dr. Cosio is speaking today based on his experiences as a psychologist employed by the Veterans Administration. He is not speaking as a representatives of or as an agent of the VA, and the views expressed are his own.



Learning Objectives

- Explain the relationship between chronic pain and different mental health disorders.
- Describe mental health disorders are defined in the new Diagnostic and Statistical Manual of Mental Disorders.
- Discuss the recommended treatments for these mental health disorders.
- Discuss the prevalence rates of these new DSM-5 disorders among chronic pain patients.

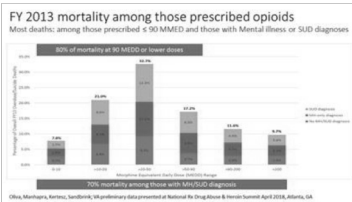


Chronic Pain & the Opioid Epidemic

- The opioid epidemic reflects a serious unmet need for better recognition and treatment of common mental health problems in patients with chronic pain (Howe & Sullivan, 2014)
- Patients attending pain specialty clinics have:
 - more difficult-to-treat pain conditions
 - comorbid, psychiatric disorders
 - use more outpatient services
 - receive a greater number of opioid prescriptions (Arout, Sofuoglu, & Rosenheck, 2017)
- Front-line practitioners may at times be faced with chronic pain patients suffering from undiagnosed mental health disorders when tapering opioid therapy
- These data support the inclusion of mental health care in the specialized treatment of chronic pain



Opioid Mortality & Mental Health



Role of Mental Health in Chronic Pain

- In most cultures, majority of mental health cases go unrecognized in primary care settings (Ballenger et al., 2001)
- About 60% of previously undetected depression cases could have been recognized if the patients had been evaluated for the mental health disorder (Katon, 1984)
- Numerous studies have documented strong association between chronic pain & psychopathology (Derssch, Polatin, & Gatchel, 2002)
 - most often associated with depression, anxiety, somatoform, personality, & substance use disorders
 - Less is known about the relationship with schizophrenia spectrum/ psychotic, sleep-wake, bipolar, neurocognitive, obsessive-compulsive, & dissociative disorders



Mental Health & Pain Relationship

- Individuals who suffer from pain and are diagnosed with a mental disorder have been found to experience a worsening of psychiatric symptoms (Eiman et al., 2011)
- Healthcare professionals may fail to give complaints about physical health problems serious consideration among patients with serious mental illness (RETHINK, 2013)
- Patients are less likely to recognize or monitor comorbid medical conditions compared to the general population (Kilbourne et al., 2006)
- They have increased likelihood of experiencing conditions that cause pain and lower probability of receiving adequate care (DeHert et al., 2011)
- Associated with:
 - impaired recovery (Pain et al., 2013)
 - greater functional incapacitation (McIntyre et al., 2006)
 - lower quality of life (Rogers et al., 2013)
 - increased risk for suicide¹⁷ compared to individuals without pain (Rachin et al., 2008)



Chronic Pain & Psychopathology

- Fishbain et al., 1986 study
- 283 chronic pain patients
 - Comprehensive Pain Center of the University of Miami School of Medicine
 - Extensive 3-day evaluation period
 - 2 hour detailed, semi-structured psychiatric interview based on DSM-III
 - Statistical comparison between male and female patients with regards to the prevalence of each diagnosis
 - 156 males
 - 127 females
 - No significant difference with regards to age or race
 - Primary locations of pain:
 - low back 73%
 - neck pain 17%
 - other (abdominal, chest, etc.) 8%
 - headache 2%



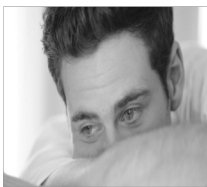
Fishbain (1986) Study & DSM-III

Diagnosis	Males	Females	Total
Total Anxiety	58.8	66.3	62.5
Personality	62.3	55.1	59.0
Total Depression	49.9	63.8	56.2
Substance Use	20.4	7.9	14.9
Intermittent Explosive	16.7	1.6	9.9
Dementia	5.1	11.0	7.8
Somatization	0.6	7.9	3.9
Bipolar	0.6	2.4	1.5
Obsessive-Compulsive	0.6	1.6	1.1
Psychosis	0	0	0
Sleep-wake	n/a	n/a	n/a
Dissociative	n/a	n/a	n/a

PainWeek

What Do We Know?

- **Anxiety**
 - Earlier research listed prevalence between 16.5% and 28.8%; Newer studies suggest up to 60% (Fishbain et al., 1998)
 - Dependent on the methods used to assess
 - DSM criteria used (III versus 5)
 - Spectrum of disorders included
 - panic disorder and generalized anxiety disorder (GAD) are most common (Demyttenaere et al., 2007)
 - PTSD and OCD no longer under anxiety disorders in DSM-5



PainWeek

What Do We Know?

- **Personality**
 - Rate ranges between 30% to 60% (Sansone & Sansone, 2012)
 - 51% met criteria for one personality disorder, and 30% for more than one (Polatin et al., 1993)
 - 60% chronic met criteria for a personality disorder versus 21% of acute low back pain (Kinney et al., 1993)
 - **Predate the onset of injury and complicate the course of a pain syndrome** (Elliot et al., 1996)
 - Specifically met criteria for cluster C (dependent 10.6%; OCPD 24.5%) (Elliot et al., 1996)

PainWeek

What Do We Know?

- Depression
 - Most research & theoretical interest among people with chronic pain (Dersh et al., 2002)
 - Ranges from 15% to 100% (Bair et al., 2003)
 - Ranges from 5% to 10% (in primary care) (Katon et al., 1992) to 85% (specialty clinics)- creates linear increase in prevalence from community to inpatient medical samples (Bair et al., 2003)
 - **Less depression when condition is more defined than in medically unexplained pain** (Wagm & Merskey, 1997)
 - **Pain symptoms** associated with 2-fold increased risk for coexisting depression (Kroenke & Taylor, 1999)
 - Multiple symptoms are 3 to 5 times more likely to be depressed (Von Korff et al., 1988)
 - Association also strengthens severity of either condition (Lamb et al., 2000)



What Do We Know?

- Substance use
 - Patients being treated for substance use report chronic, noncancer pain (Potter et al., 2008)
 - Hx SUD occurs frequently among patients treated for chronic, noncancer pain (Fleming et al., 2007)
 - 3% to 48% of chronic pain patients have a current substance use disorder (Morasco et al., 2011)
 - Lifetime prevalence (16% to 74%) (Morasco et al., 2011) higher than general population (16.7%) (NIDA, 1991)
 - 94% of chronic pain patients with lifetime SUDs experience onset before pain (Polaftin et al., 1993)
 - Chronic pain patients **no more likely** than other patient in primary care to have a current SUD; not associated with unique risk for substance use disorder (Brown et al., 1996)
 - Most commonly misused/abused substances were alcohol (current and lifetime) and narcotics (current); **did not consider marijuana and tobacco use** (Dersh et al., 2002)



What Do We Know?

- Somatic Symptom Disorder
 - Old somatoform disorders; Lifetime rates comparable to community and primary care (Atkinson et al., 1991)
 - Lifetime prevalence of somatoform was 34% and 6-month rate of 17%, but dropped to 12% and 5% with DSM-IV (Grabe et al., 2003)
 - 95% of patients with chronic low back pain in intensive rehab setting had current SSD (Grabe et al., 2003)
 - Correlation between pain intensity and presence of somatization and hypochondriasis (Polaftin et al., 1993)
 - Frequency in chronic pain patients varies from 0% to 53%; Conversion 2% to 38% (Dworkin & Calgro, 1988)



What We Know Less...

- **Neurocognitive**
 - Prevalence rate of patients with dementia that are in pain from 20% to 50% (Tosato et al., 2012)
 - 60-80% of individuals with NCD in care homes experience pain (Corbett et al., 2012)
 - **Few studies in subtypes (e.g. dementia due to vascular, frontotemporal, and Lewy bodies)**
 - Prevalence of some type of pain in Parkinson's disease ranges from 68-85% (Lee et al., 2006)
 - TBI-associated disability, prevalence is about 52% among civilians (Nampiaparampil, 2008) and 42% among Veterans (Lee et al., 2009)
- **Bipolar**
 - Prevalence of clinical pain is 29%; of migraine is about 14%; and of chronic pain is 24% (Skubbs et al., 2014)
 - **Almost four pain complaints at any one time** (Bigenzler et al., 2013); Musculoskeletal conditions (e.g. lower back pain, arthritis, and hip problems) more prevalent (Kilbourne et al., 2004)
 - Migraines most common (Cruz et al., 2010) and are 3x more likely to experience (Skubbs et al., 2014)
 - Lifetime prevalence of migraine is 40%, and 65% in bipolar-II disorder (Low, Gauthaud du Fort, & Caverlatte, 2003)
 - Multifactorial etiology (vascular, cellular, molecular, neurochemical, genetic) in both (McIntyre et al., 2009)



What We Know Less...

- **Obsessive-compulsive**
 - Prevalence of OCD among treatment seeking patients is about 1.1% (Fitzbain et al., 1986)
 - Prevalence of 12-month and lifetime is about 2% (Kroemer et al., 2012)
 - Among low back pain patients, prevalence from 2.0% to 8.2% (Pohalin et al., 1992) and lifetime of 13.4% (Kilcoff et al., 1991)
 - Prevalence among musculoskeletal pain patients was 0.0% (Aemundson et al., 1996)
 - Lifetime prevalence in treatment seeking MS patients was 8.6% (Korostoff & Feinstein, 2007)
- **Schizophrenia spectrum**
 - 38% reported pain (Delplaine et al., 1978); similar to general population of similar age (de Almeida et al., 2013)
 - Most common complaint is headaches (Tomey, 1989); common sites are head, leg, and back pain (Watson, Chandarana, & Merskey, 1981)
 - Present with bizarre sensory or tactile hallucinations difficult to distinguish from pain (Bar et al., 2002)



What We Know Less...

- **Sleep-wake**
 - Classic chicken and egg problem to determine direction of causation between pain and sleep disturbance
 - Both share common neurobiological systems, in particular central serotonergic neurotransmission (Pica & Mason, 2002)
 - 50-70% of chronic pain patients suffer from a sleep disturbance (Molin, Gibson, & Wade, 1998); 89% seeking treatment report at least one sleep complaint (McCracken & Iverson, 2002)
 - Sleep apnea, restless leg syndrome, and periodic limb movements in sleep are most common
 - Sleep apnea is diagnosed in 17% of headache patients (Pava et al., 1997)
 - People with chronic pain reported more chronic insomnia (48.6%) than without (17.2%) (Taylor et al., 2007)
 - Increased daytime pain is linked with poor subsequent nighttime sleep and poor sleep is associated with more next day pain; evidence of a bidirectional relationship between pain and sleep (Raymond et al., 2001)



What We Know Less...

- Dissociative
 - Headaches were most frequent somatic complaint (more than 60%) (Saxe et al., 1994)
 - Headaches, joint pain, back pain, pelvic pain, and pain in the extremities, were more common than in controls (Agargun et al., 1998)
 - **More dissociative experiences have higher pain thresholds** (McFadden & Wontala, 1993)
 - Different identities could "take over" at times of more severe pain (Saxe, Chhabra, & van der Kolk, 2002)
 - Difference in pain perception, location, and estimates of secondary functional impairment among different identities (Saxe, Chhabra, & van der Kolk, 2002)
 - Case of Phillip/Jasmine



PainWeek

We Know Nothing About "Taboos"

- Neurodevelopmental
 - Caregivers report 15% of their sample was experiencing pain for an average of 6 years
 - Significantly more females than males, although age, communication ability, and level of intellectual disability were not found to be associated
 - **Presence of pain associated with cerebral palsy, physical disability, and reports of challenging behavior** (Waltz, Mennert, & McCune, 2011)
- Feeding/leaving
 - Odds of bulimia nervosa and binge eating disorder predicting musculoskeletal pain (1.6-2.8) and other pain conditions (1.9-2.8) are generally comparable (Kessler et al., 2013)
- Elimination
 - Most frequent problem in urologic practice is recurrent or chronic genital pain with no physical cause; Very little has been written and treatment is generally ineffective (Kohn, 2011)
 - 2/3 of adolescents with a high pain dysfunctional profile will develop pain-related gastro-intestinal disorder; Profile characterized by low coping efficacy and high levels of negative affect, pain catastrophizing, and functional disability (Waller et al., 2013)

PainWeek

We Know Nothing About "Taboos"

- Sexual dysfunction
 - 73% of respondents had pain-related difficulty with sexual activity; Few differences between men and women (Arbuckle et al., 2001)
 - Several difficulties and in various combos, including arousal, positioning, performance, and relationship issues
 - Predicted by psychological factors and pain duration (Koen, Roberts, & Swain, 2005)
- Gender dysphoria
 - Chronic pain has negative impact on an individual's gender identity (Dreux & LaFrance, 1998)
 - Men with chronic pain perceived as less masculine/more feminine; women as more masculine/less feminine; and were more similar to each other than other men/women (Bernardes & Lima, 2010)
 - **Transgender and/or gender nonbinary people witness an increase in pain especially in areas of body that change as a result of cross-sex hormone treatment**
 - 30% MTF reported headaches, breast, and musculoskeletal pain.22; 62% of FTM reported pain that improved after testosterone administration (Klein et al., 2007)

PainWeek

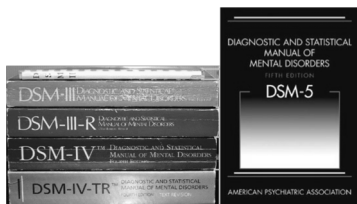
We Know Nothing About “Taboos”

- Paraphilic
 - 29% of men with pain were not able to fantasize about a sexually attractive person; erotic parts of a woman’s body; erotic or romantic situations; caressing, touching, undressing, or foreplay; and/or sexual intercourse, oral sex, touching to orgasm (Morga et al., 1998)
- “Process” addictions
 - Such as gambling, internet/video game, food, shopping/spending, exercise, and sex addictions
 - These behaviors activate the brain reward system with effects similar to those of substance use (APA, 2013)
 - Little has been documented regarding problematic internet usage (Chiosso et al., 2011)
 - Addiction recovery institutions began treating internet addiction after screening for other process addictions like gambling (Chiosso et al., 2011)



PainWeek

APA (2013) New DSM-5



PainWeek

Cosio (2018) Study & DSM-5

- The purpose of the pilot study was to statistically compare chronic pain patients for the types of DSM-5 disorders identified using emerging measures
 - sample of 272 Veterans aged 18-89 years old (11% dropped)
 - 57% AA; 89% male; and 37% were 55-64 years old
 - November 1, 2013 to October 31, 2014 participated in the Pain Education School program
 - mixed, idiopathic pain conditions (back, neck, extremity, head, and fibromyalgia)
 - males and females did not differ significantly with regards to age or race
 - only 1.5% of cases reported no domains; 18.5% had endorsed 1-6 domains; 80% endorsed 7-12 domains
- These measures are being used as potentially useful tools to enhance clinical decision-making
- In addition, the current study serves as a replication of previous studies using the most recent version of the APA’s *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5)

PainWeek

Measures

As part of introduction of program, all participants completed a pre-education assessment:

- World Health Organization Disability Assessment Schedule (WHODAS 2.0)
 - 36 item, self-administered measure
 - Assesses disability in adults across six domains (cognition, mobility, self-care, getting along, life activities, and social participation)
 - Each item asks the individual to rate how much difficulty they had in specific areas of functioning during the past 30 days
- DSM-5 Self-Rated Level 1 Cross-Cutting Symptom Measure-Adult (CCSM-A)
 - 23 item, self-administered measure
 - Assesses 12 psychiatric domains (depression, anger, mania, anxiety, somatic symptoms, psychosis, sleep problems, memory, repetitive behaviors, dissociation, personality, and substance use)
 - Each item inquires about how much (or how often) the individual has been bothered by the specific symptom during the past two weeks



Cross-Cutting Symptom Measure-Adult

	None Not at all	Slight Rare, less than a day or less	Mild Several days	Moderate More than half the day	Severe Nearly every day	Highest Domain Score (0-4)
During the past TWO (2) WEEKS , how much (or how often) have you been bothered by the following problems?						
I. 1. Little interest or pleasure in doing things?	0	1	2	3	4	
2. Feeling down, depressed, or hopeless?	0	1	2	3	4	
III. 3. Feeling more irritated, grouchy, or angry than usual?	0	1	2	3	4	
IV. 4. Sleeping less than usual, but still have a lot of energy?	0	1	2	3	4	
5. Starting lots more projects than usual or doing more risky things than usual?	0	1	2	3	4	
VI. 6. Feeling nervous, anxious, frightened, worried, or on edge?	0	1	2	3	4	
7. Feeling panic or being frightened?	0	1	2	3	4	
8. Avoiding situations that make you anxious?	0	1	2	3	4	
V. 9. Unexplained aches and pains (e.g., head, back, joints, abdomen, legs)?	0	1	2	3	4	
10. Feeling that your illnesses are not being taken seriously enough?	0	1	2	3	4	
VI. 11. Thoughts of actually hurting yourself?	0	1	2	3	4	



Cross-Cutting Symptom Measure-Adult

VII. 12. Hearing things other people couldn't hear, such as voices even when no one was around?	0	1	2	3	4	
13. Feeling that someone could hear your thoughts, or that you could hear what another person was thinking?	0	1	2	3	4	
VIII. 14. Problems with sleep that affected your sleep quality over all?	0	1	2	3	4	
IX. 15. Problems with memory (e.g., learning new information) or with location (e.g., finding your way home)?	0	1	2	3	4	
X. 16. Unpleasant thoughts, urges, or images that repeatedly enter your mind?	0	1	2	3	4	
17. Feeling driven to perform certain behaviors or mental acts over and over again?	0	1	2	3	4	
XI. 18. Feeling detached or disconnected from yourself, your body, your physical surroundings, or your memories?	0	1	2	3	4	
XII. 19. Not knowing who you really are or what you want out of life?	0	1	2	3	4	
20. Not feeling close to other people or enjoying your relationships with them?	0	1	2	3	4	
XIII. 21. Drinking at least 4 drinks of any kind of alcohol in a single day?	0	1	2	3	4	
22. Smoking any cigarettes, a cigar, or pipe, or using snuff or chewing tobacco?	0	1	2	3	4	
23. Using any of the following medicines ON YOUR OWN , that is, without a doctor's prescription, in greater amounts or longer than prescribed (e.g., painkillers like Vicodin, stimulants like Ritalin or Adderall, sedatives or tranquilizers like sleeping pills or Valium), or drugs like marijuana, cocaine, or crack, club drugs (like ecstasy), hallucinogens (like LSD), heroin, inhalants or solvents (like glue), or methamphetamine (like speed)?	0	1	2	3	4	



Results Comparison

Diagnosis	Fishburn (2018)		Cosio (2018)	
	Total	Total	Total	Total
Depression	64.1	67	64.1	67
Anxiety	63.5	74	63.5	74
Mania	1.5	13	1.5	13
Amnesia	62.1	66	62.1	66
Somatic Symptoms	3.9	74	3.9	74
Psychosis	0	18	0	18
Sleep Problems	16	77	16	77
Memory	1.8	51	1.8	51
Repetitive Thoughts & Behaviors	1.1	47	1.1	47
Obsession	16	42	16	42
Personality Functioning	10.4	44	10.4	44
Substance Use	14.9	17	14.9	17

Diagnosis	Fishburn (2018)		Cosio (2018)	
	Males	Females	Males	Females
Depression	63.9	64.3	63.9	64.3
Anxiety	63.7	64.3	63.7	64.3
Mania	4.6	1.4	1.6	3.6*
Amnesia	62.8	66.1	62	70*
Somatic Symptoms	4.6	7.9	7.3	7.5
Psychosis	0	0	17	17
Sleep Problems	16	16	16	16
Memory	1.1	32.8	31	51
Repetitive Thoughts & Behaviors	4.6	1.5	4.7	19
Obsession	16	16	42	42
Personality Functioning	11.1	11.1	43	39
Substance Use	16.4	7.9	16	17*

*Significant differences at p<.05

Cosio (2018) Study & DSM-5


Diagnosis	Fishburn (2018)		Cosio (2018)	
	Total	Total	Total	Total
Sleep Problems	16.4	77	16.4	77
Anxiety	63.5	74	63.5	74
Somatic Symptoms	3.9	74	3.9	74
Depression	64.1	67	64.1	67
Amnesia	62.1	66	62.1	66
Mania	1.5	13	1.5	13
Personality Functioning	10.4	44	10.4	44
Obsession	16.4	42	16.4	42
Repetitive Thoughts & Behaviors	1.1	47	1.1	47
Psychosis	0	18	0	18
Substance Use	14.9	17	14.9	17

Summary

- Individuals had mild-moderate difficulty in specific areas of functioning during the past 30 days
 - Latinos reported significantly more disability (M=105.78) than Caucasians (M=97.62), African Americans (M=86.24), and other races (M=35.33); F(3,268)=4.19, p<0.01
- Witnessed more mania, memory, and repetitive thoughts and behaviors in this sample
 - May be due to dimensional vs. categorical measurement of DSM-5
 - May be because of a high rate of false positive answers on the measure--perhaps may want to use the lowest threshold
 - The differential diagnosis of bipolar disorder includes other conditions that may have manic-like symptoms, including organic mood disorders such as endocrine or metabolic conditions, drug intoxications, and tumors
 - Does the patient truly has memory loss or another cognitive problem? Some degree of memory loss with aging, medications, and depression
 - The differential diagnosis of OCD includes depression, phobic disorders, anorexia nervosa, cluster c personality, and schizophrenia

Summary


- DSM-5 Self-Rated Level 1 Cross-Cutting Symptom Measure-Adult (CCSM-A) may serve as a good measure to use to screen chronic pain patients for mental health concerns
 - CCSM-A fails to measure PTSD, which is prevalent in the Veteran population
 - The differential diagnosis of PTSD includes anxiety disorders, phobias, and OCD
 - CCSM-A fails to measure "taboo", or polarizing disorders
- CCSM-A may function better in helping to identify the negative prediction of symptoms
 - Represent symptoms commonly seen in clinical practices, regardless of a client's subsequent diagnosis
 - Assessments could help providers:
 - document all of a client's symptoms
 - aid in developing more precise treatment plans
 - monitor treatment progress
 - improvements even if the symptoms do not disappear completely



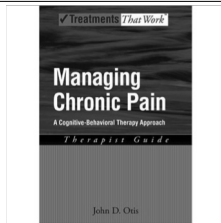
Examples of Interventions

Intervention	Description	Category
Behavioral Interventions	Exposure and Response Prevention Cognitive Therapy Assessment and Commitment Therapy Hypnosis Cognitive Behavioral Therapy Eye Movement Desensitization and Reprocessing (EMDR) Exposure Therapy (for trauma)	Behavioral Interventions
Psychoeducation	Social Skills Training Dialectical Behavior Therapy (Dialectic)	Psychoeducation
Relaxation	Mindfulness-Based Transcendental Meditation Schema Focused Therapy (for depression)	Relaxation
Motivational	Motivational Interviewing/Motivational Enhancement Therapy Cognitive Behavioral Therapy (Integrated with MB)	Motivational
Contingency Management	Contingency Management	Contingency Management
Self-Help	Self-Help	Self-Help
Behavioral Couples Therapy (for alcohol)	Behavioral Couples Therapy (for alcohol)	Behavioral Couples Therapy (for alcohol)
Cognitive Behavioral Therapy (non-assertive)	Cognitive Behavioral Therapy (non-assertive)	Cognitive Behavioral Therapy (non-assertive)


(APA Division 12, 2016)

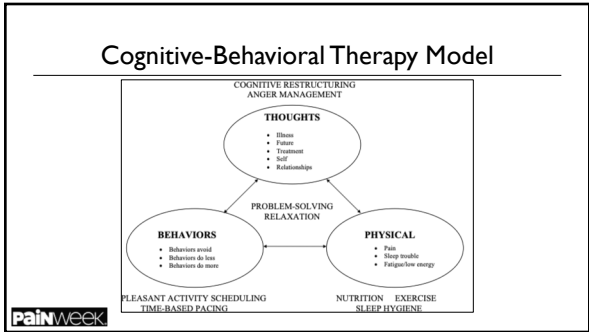


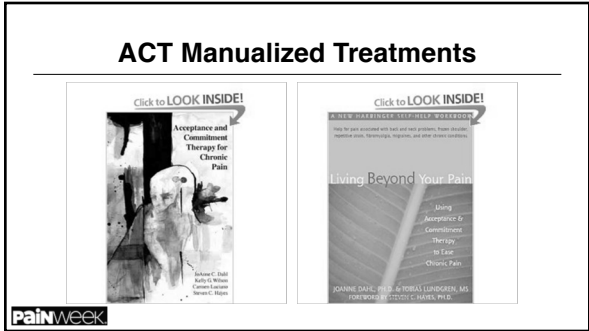
CBT Manualized Treatment

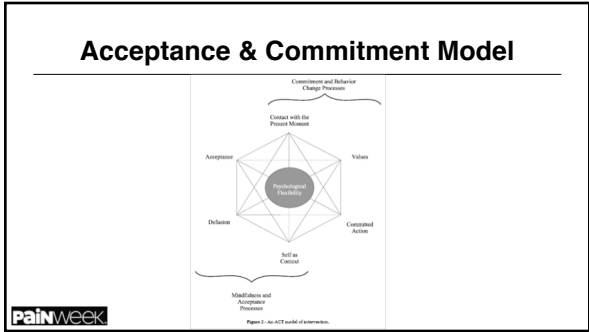


- Managing Chronic Pain: A Cognitive-Behavioral Therapy Approach (Treatments That Work) by John Otis
- Sessions are as follows:
 1. Education on Chronic Pain
 2. Theories of Pain and Diaphragmatic Breathing
 3. Progressive Muscle Relaxation and Visual Imagery
 4. Automatic Thoughts and Pain
 5. Cognitive Restructuring
 6. Stress Management
 7. Time-based Pacing
 8. Pleasant Activity Scheduling
 9. Anger Management
 10. Sleep Hygiene
 11. Relapse Prevention and Flare-Up Planning
 12. Feedback and Termination









For More Information:

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References

- Agargun, M., Tekeoglu, I., Kara, H., et al. (1998). Hypnotizability, pain threshold, and dissociative experiences. *Biological Psychiatry*, 44, 69-71.
- Aloisi A, Bachocco V, Costantino A, et al: Cross-sex hormone administration changes pain in transsexual women and men. *Pain* 132:560-567, 2007.
- Ambler N, Williams A, Hill P, et al: Sexual difficulties in chronic pain patients. *Clin J Pain* 17:138-145, 2001.
- American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*. 5th ed. Washington, DC: American Psychiatric Association; 2013.
- American Psychiatric Association (2013). *DSM-5 Self-Rated Level 1 Cross-Cutting Symptom Measure-Adult (CCSM-A)*. In: DSM-5. Washington, DC: American Psychiatric Association.
- American Psychological Association Society of Clinical Psychology (Division 12). *Psychological Treatments*. Available at: <http://www.div12.org/psychologicaltreatments/disorders/>. Accessed December 1, 2016.
- Arout, C., Soluglu, M., & Rozenheck, R. (2017). Rates and Correlates of Pain Specialty Clinic Use Nationally in the Veterans Health Administration. *Pain Med*, Apr 1;18(4):702-710.
- Amundson, G., Jacobson, S., Alldredge, M., & Norton, G. (1998). Social phobia in disabled workers with chronic musculoskeletal pain. *Behavior Research & Therapy*, 34, 959-964.
- Atkinson, J., Slater, M., Patterson, T., et al. (1991). Prevalence, onset, and risk of psychiatric disorders in men with chronic low back pain: A controlled study. *Pain*, 45, 111-121.
- Bai, M.J., Robinson RL, Katon W, Kroenke K. (2003). Depression and pain comorbidity: a literature review. *Arch Intern Med*, 163(20), 2433-2445.
- Balenger, J., Davidson, J., Lecrubier, Y., et al. Consensus statement on transcultural issues in depression and anxiety from the International Consensus Group on Depression and Anxiety. *J Clin Psychiatry*. 2001;62 Suppl 13:47-55.
- Bar, K., Caser, C., Henrich, T., & Sauer, H. (2002). Transient activation of a somatosensory area in painful hallucinations shown by fMRI. *Neuroreport*, 13, 805- 808.
- Bernades S, Lima M: Being less of a man or less of a woman? Perceptions of chronic pain patients' gender identities. *European J Pain* 14:194-199, 2010.
- Bogen, D., Bogen, M., Bohmet, A., et al. (2013). Pain conditions among veterans with schizophrenia or bipolar disorder. *General Hospital Psychiatry*, 35, 269-274.



References

- Brown RL, Patterson JJ, Rounds LA, Pappasoulotis O. Substance use among patients with chronic back pain. *J Fam Pract*. 1996;43(2):152-160.
- Christone S, Batscheletberger E, Bar L, Camacho T: Twelve-step recovery in inpatient treatment for internet addiction. In: K. Young & C. de Abreu (eds) *Internet addiction: A handbook and guide to evaluation and treatment*. Hoboken, NJ: John Wiley & Sons, 2011.
- Cosio, D., Husebo, B., Malcangio, M., et al. (2012). Assessment and treatment of pain in people with dementia. *Nature Reviews Neurology*, 8, 529-539.
- Dahl, J., Wilson, K., Luciano, C., & Hayes, S. (2005). Acceptance and commitment therapy for chronic pain. Reno, NV: Context Press.
- Dain, J., & Lundgren, T. (2006). Living beyond your pain: Using acceptance & commitment therapy to ease chronic pain. New Haringer Publications.
- de Almeida, J., Braga, P., Neto, F., & Fimenta, C. (2013). Chronic pain and quality of life in schizophrenic patients. *Revista Brasileira de Psiquiatria*, 35, 13-20.
- De Hert, M., Correll, C., Bobes, J., et al. (2011). Physical illness in patients with severe mental disorders. I. Prevalence, impact of medications and disparities in health care. *World Psychiatry*, 10, 52-77.
- Deaux K, LaFrance M: Gender. In: Gilbert D, Fiske S, Lindzey G (eds). *The handbook of social psychology*. 4th edition. New York: McGraw Hill, 1998.
- Delaplane, R., Babunajy, O., Merley, H., & Zarfas, J. (1978). Significance of pain in psychiatric hospital patients. *Pain*, 4,361-366.
- Dempflemeier K, Bultmann R, Lee S, et al. (2007). Mental disorders among persons with chronic back or neck pain: results from the World Mental Health Surveys. *Pain* 2007;129(3):332-342.
- Dersh J, Poulos FB, Gatchel RJ: Chronic pain and psychopathology: research findings and theoretical considerations. *Psychosom Med*. 2002;64(5):773-786.
- Diwotiri RH, Collier E. Psychiatric diagnoses and chronic pain. *DSM-III-R and beyond*. *J Pain Symptom Manage*. 1988;3(2):87-98.
- Elliot, T., Jackson, W., Layfield, M., & Kendall, D. (1996). Personality disorders and response to outpatient treatment of chronic pain. *Journal of Clinical Psychology in Medical Settings* 3(3):219-234.
- Elman, J., Zablotz, J., & Borsook, D. (2011). The missing p in psychiatric training: Why it is important to teach pain to psychiatrists. *Archives of General Psychiatry*, 68, 12-20.



References

- Fishban, D., Földberg, M., Meagher, R., et al. (1986). Male and Female Chronic Pain Patients Categorized by DSM-III Psychiatric Diagnostic Criteria. *Pain*, 26, 181-197.
- Fishban, D., Culler, R., Rosomoff, H., Rosomoff, R. (1998). Comorbid psychiatric disorders and chronic pain. *Curr Rev Pain*, 2, 1-10.
- Fleming MF, Balousak SL, Kessler CL, Mundt MF, Bromn GD. Substance use disorders in a primary care sample receiving daily opioid therapy. *J Pain*. 2007;8(7):573-582.
- Foo, H. & Mason P. (2003). Brainstem modulation of pain during sleep and waking. *Sleep Medicine Reviews*, 7, 145-154.
- Grabe, H., Meyer, C., Hieske, U., et al. (2003). Somatoform pain disorder in the general population. *Psychotherapy and Psychosomatics*, 72, 88-94.
- Howe, C. & Sullivan, M. (2014). The missing 'P' in pain management: how the current opioid epidemic highlights the need for psychiatric services in chronic pain care. *Gen Hosp Psychiatry*, Jan-Feb;36(1):99-104.
- Katon, W. Depression: relationship to somatization and chronic medical illness. *J Clin Psychiatry*. 1984;45(3 Pt 2):4-12.
- Katon W, Schulberg H. Epidemiology of depression in primary care. *Gen Hosp Psychiatry*. 1992;14(4):237-247.
- Kessler R, Berglund P, Ciu W, et al. The prevalence and correlates of binge eating disorder in the WHO World Mental Health Surveys. *Stat Psychol* 7(2):904-914, 2013.
- Kibourne, A., Cornelius, J., Han, X., et al. (2004). Burden of general medical conditions among individuals with bipolar disorder. *Bipolar Disorders*, 6, 368-373.
- Kibourne, A., McCarthy, J., Welch, D., & Blow, F. (2006). Recognition of co-occurring medical conditions among patients with serious mental illness. *Journal of Nervous and Mental Disease*, 194, 598-602.
- Kinney, R., Gatchel, R., Polatin, P., et al. (1993). Prevalence of psychopathology in acute and chronic low back pain patients. *Journal of Occupational Rehab*, 3:95-103.
- Knaster, P., Karlsson, H., Estlander, A., & Kalso, E. (2012). Psychiatric disorders as assessed with SCID in chronic pain patients: The anxiety disorders precede the onset of pain. *General Hospital Psychiatry*, 34, 46-52.
- Krogstad, M. & Feinstein, A. (2007). Anxiety disorders and their clinical correlates in multiple sclerosis patients. *Multiple Sclerosis*, 13,



References

- Kroenke K, Price RK. Symptoms in the community: prevalence, classification, and psychiatric comorbidity. *Arch Intern Med*. 1990;150(21):2474-2480.
- Kurah E. Genital pain. In: Kurah E, Uchaker J (eds) *Office Urology*. Current Clinical Urology. Humana Press, Totowa, NJ, 2001.
- Kyriakidis, J., Swalm D. Sexual dysfunction and chronic pain: The role of psychological variables and impact of quality of life. *European J Pain*. 2005; 9:205-209.
- Lamb SE, Gurtnik JM, Buchner DM, et al. (2002). Factors that modify the association between knee pain and mobility limitation in older women: the Women's Health and Aging Study. *Ann Rheum Dis*, 59(5), 331-337.
- Lee, M., Walker, R., Hildreth, T., & Peacock, W. (2006). A survey of pain in idiopathic Parkinson's disease. *Journal of Pain & Symptom Management*, 32, 462-469.
- Leys, H., Ols, J., Top, C., et al. (2009). Prevalence of chronic pain, posttraumatic stress disorder, and persistent postconcussive symptoms in D/IOEF veterans. *Polysyma clinical trial*. *Journal of Rehabilitation Research & Development*, 46, 697-702.
- Low, N., Gauthier, du Fort, G., & Cervantes, P. (2003). Prevalence, clinical correlates, and treatment of migraine in bipolar disorder. *Headache*, 43, 940-949.
- Magni G, Mensky H. A simple examination of the relationships between pain, organic lesions, and psychiatric illness. *Pain*. 1967;29(3): 295-302.
- McAdden, J. & Woltska, V. (1989). Differing reports of pain perception by different personalities in a patient with chronic pain and multiple personality disorder. *Pain*, 55, 379-382.
- McIntyre, R., Konarski, J., Wilkins, K., et al. (2006). The prevalence and impact of migraine headache in bipolar disorder: Results from the Canadian Community Health Survey. *Headache*, 46, 979-982.
- McCracken, L. & Iverson, G. (2002). Disrupted sleep patterns and daily functioning in patients with chronic pain. *Pain Research & Management*, 7, 75-79.
- Miller, C., Abraham, K., Bajaj, L., et al. (2013). Quality of life among patients with bipolar disorder in primary care versus community mental health settings. *Journal of Affective Disorders*, 146, 100-105.
- Morga T, Tan G, Osterman H, Monga U. Sexuality and sexual adjustment of patients with chronic pain. *Disability Rehab* 20(9): 317-329, 1998.
- Morsacci BJ, Grinzer S, Lewis L, O'Dham R, Turk DC, Doboschak SK. Systemic review of psychiatric correlates, and treatment outcomes for chronic pain patients with comorbid substance use disorder. *Pain*. 2011;152(3):488-507.



References

- Marrin, C., Gibson, D., & Wilsde, J. (1998). Self-reported sleep and mood disturbance in chronic pain patients. *Clinical Journal of Pain*, 14, 311-314.
- Nampagarampill, D. (2008). Prevalence of chronic pain after traumatic brain injury. *Journal American Medical Association*, 300, 715-718.
- National Institute on Drug Abuse. (1991). National household survey on drug abuse: Highlights. Washington DC: US Government Printing Office.
- National Vital Statistics System, 1999-2008. Automation of Reports and Consolidated Orders System (ARCOS) of the Drug Enforcement Administration (DEA). 1999-2010; Treatment Episode Data Set, 1999-2009; http://www.oas.samhsa.gov/2k10/arcos10newseries_infographic.html.
- Okiyaji, A., Turk, D., & Curran, S. (1999). Anger in chronic pain: Investigations of anger targets and intensity. *Journal of Psychosomatic Research*, 47, 1-12.
- Ortiz, A., Cervantes, P., Zlotnik, G., et al. (2010). Cross-prevalence of migraine and bipolar disorder. *Bipolar Disorders*, 12, 397-403.
- Ortiz, J. (2007). *Managing chronic pain: A cognitive-behavioral therapy approach; Therapist guide* (Treatments that work). USA: Oxford University Press.
- Ots, J., Keane, T., Kerns, R., et al. The Development of an Integrated Treatment for Veterans with Comorbid Chronic Pain and Posttraumatic Stress Disorder. *Pain Medicine*, Volume 10, Issue 7, 3 Oct 2009; Pages 1300-1311.
- Palva, T., Fariña, A., Martins, A., et al. (1997). Chronic headaches and sleep disorders. *Archives of Internal Medicine*, 157, 1701-1705.
- Pasalis, P., Kinney, R., Gatchel, R., et al. (1993). Psychiatric illness and chronic low-back pain. The mind and the spine-which goes first? *Spine* 18(1):66-71.
- Potter JS, Prather K, Weiss RD. Physical pain and associated clinical characteristics in treatment-seeking patients in four substance use disorder treatment modalities. *Am J Addict*. 2008;17(2):121-126.
- Ratcliffe, G., Ernst, M., Belk, S., & Soren, J. (2008). Chronic pain conditions and suicidal ideation and suicide attempts: An epidemiologic perspective. *Clinical Journal of Pain*, 24, 204-210.
- Raymond, I., Nielsen, T., Lavigne, G., et al. (2001). Quality of sleep and its daily relationship to pain intensity in hospitalized adult burn patients. *Pain*, 92, 981-988.
- RETHINK. (2013). Lethal discrimination. Available at: <https://www.rethink.org/meds/810988/Rehink%20Mental%20Illness%20-%20Lethal%20Discrimination.pdf>. Last accessed: January 9, 2017.



References

- Sansone, R. & Sansone, L. (2012). Chronic pain syndromes and borderline personality. *Innov Clin Neurosci* 9(1):10-14.
- Saxe, G., Chawla, N., & van der Kolk, B. (2002). Self-destructive behavior in patients with dissociative disorders. *Suicide and Life-Threatening Behavior*, 32, 313-319.
- Saxe, G., Chawla, N., Chinnman, G., Berkowitz, R., et al. (1994). Somatization in patients with dissociative disorders. *American Journal of Psychiatry*, 151, 1595-1597.
- Stubbs, B., Eggermont, L., Mitchell, A., et al. (2014). The prevalence of pain in bipolar disorder: A systematic review and large-scale meta-analysis. *Acta Psychiatrica Scandinavica*, 127, 75-88.
- Taylor, D., Mallory, L., Lichstein, K., et al. (2007). Comorbidity of chronic insomnia with medical problems. *Sleep*, 30, 213-218.
- Toney, E. (1989). Headache in schizophrenia and seasonality of birth. *Biological Psychiatry*, 26, 852-853.
- Tosato, M., Lukas, A., Danese, P., et al. (2012). Association of pain with behavioral and psychiatric symptoms among nursing home residents with cognitive impairment: Results from the SHELLTER study. *Pain*, 153, 305-310.
- Von Korff, M., Dworkin, S.F., Le Resche, L., Kruger, A. (1988). An epidemiologic comparison of pain complaints. *Pain*, 32(2), 173-183.
- Walker, L., Sherman, A., Buehfi, S., et al. Functional abdominal pain patient subtypes in childhood predict functional gastrointestinal disorders with chronic pain and psychiatric comorbidities (adolescence and adulthood). *Pain* 153(9): 1798-1806, 2012.
- Walsh, M., Morrison, T., McGuire, B. - Chronic pain in adults with an intellectual disability: Prevalence, impact, and health service use based on caregiver report. *Pain* 155: 1951-1957, 2011.
- Watson, G., Chandarana, P., & Merskey, H. (1981). Relationship between pain and schizophrenia. *The British Journal of Psychiatry*, 138, 33-38.
- World Health Organization. (2012). *Measuring health and disability: Manual for WHO Disability Assessment Schedule (WHODAS 2.0)*. World Health Organization, 2010, Geneva.