TEXAS WORKERS' COMPENSATION
Education Conference

Psychosocial Factors Affecting Injured Workers: Identifying, Preventing, and Addressing Delayed Recovery

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BIOMEDICAL MODEL OF INJURY/DISEASE

Assumes a specific traumatic physical cause, which once found and eradicated, returns the individual to a baseline of full health and functioning (“fix the pain generator”)

BIOMEDICAL MODEL OF INJURY/DISEASE

Flawed assumptions when applied to musculoskeletal pain:

- Pain occurs in multiple episodes
- Clear traumatic causes are rare
- Total symptom elimination is often not possible
- Ignores other influences on behavior

BIOPSYCHOSOCIAL MODEL OF INJURY/DISEASE

A complex, dynamic interaction of multiple factors that affect the presentation of a medical condition and its treatment:

- Biological – tissue changes
- Psychological – mood, attitude, beliefs
- Social – culture, family, work, legal

ILLNESS AND DISABILITY BEHAVIOR

Broader than medical symptoms alone:

- Complaints
- Compliance
- Health care seeking
- Test inconsistency
- Return to work

Only 12-25% of utilization predicted by objective physical morbidity. Most are psychosocial factors.

RISK FACTORS FOR DELAYED RECOVERY AND EXTENDED DISABILTY

MUSCULOSKELETAL PAIN

- 85% - lifetime rate of missed work or seeking medical care
- 66% - 1 year prevalence rate, of which 25% had intense pain or loss of function
- 5-10% of annual total will go on to chronic pain/work loss (over 6 months)
- <10% use 70-80% of the healthcare resources

SO WHY DO SOME HAVE DELAYED RECOVERY?

RISK FACTORS

Individual social, economic, and psychological factors play important roles in the manifestation of:

- Treatment seeking
- Physical complaints
- Response to treatment
- Length of disability
- Return to work

Maintenance of disabling pain and off-work status is primarily based on psychosocial factors, not physical pathology.

Purely biomedical approaches have limited ability to resolve many musculoskeletal problems or change health behaviors

Guide to Assessing Psychosocial Yellow Flags in Acute Low Back Pain:

Risk Factors for Long-Term Disability and Lost Time

Kendall, NAS, Linton, SJ, & Main, CJ

Part of the *New Zealand Acute Low Back Pain Guideline,* Accident Compensation Corp., New Zealand (1997) (www.acc.co.nz)

PSYCHOSOCIAL 'YELLOW FLAGS' (NZ)

- 'Red flags' - potentially dangerous **physical** risk factors for pain and disability

- 'Yellow flags' - potentially significant **psychosocial** risk factors for developing long term disability or work loss:

ABCDEFW

YELLOW FLAGS (NZ)

Attitudes and Beliefs

- Pain or activity will cause harm, ‘fear-avoidance’
- All pain must be eliminated before resuming work or normal activity
- Catastrophic thoughts about symptoms
- Pain or function is uncontrollable

YELLOW FLAGS (NZ)

Behaviors

- Use of extended rest and ‘downtime’
- Reduced activity and withdrawal from ADLs
- Avoidance of normal and productive activity
- Excessive pain reports (> 10 on a 0-10 scale)
- Excessive reliance on physical aids
- Alcohol or substance abuse
- Smoking

YELLOW FLAGS (NZ)

Compensation Issues

- Lack of financial incentive to return to work
- Delay in or dispute over benefits
- History of: prior claims, extended time off work, previous back claim
- Previous negative case management experience (perceived lack of concern)

YELLOW FLAGS (NZ)

Diagnosis and Treatment

- Providers sanctioning disability, not providing treatment to increase function, dramatizing pain
- Medical language or conflicting explanations creating confusion, fear, and catastrophizing
- Dependency on passive treatment
- Amount of healthcare utilization
- Expectation of a ‘techno-fix’
- Lack of satisfaction with prior treatment
- Recommendation to withdraw from work

YELLOW FLAGS (NZ)

Emotions

- Fear of pain with activity or work
- Depressed mood or irritability
- Anxiety about, and heightened awareness of, body sensations
- Feelings of stress and lack of control
- Loss of interest in social activity
- Feeling useless and not needed

YELLOW FLAGS (NZ)

Family

- Overprotective partner emphasizing fear of harm or encouraging catastrophizing
- Solicitous behavior from partner
- Punitive responses from partner
- Lack of support of return to work
- (History of abuse, history of disability model in family)

YELLOW FLAGS (NZ)

Work

- History of heavy manual labor
- Stress at work / Job dissatisfaction
- Belief work is harmful or dangerous
- Shift work or unsociable hours
- Lack of control over work load / monotony
- Negative experiences of employer response to injury
- Absence of interest from employer

YELLOW FLAGS (NZ)

Action Steps:

- If less progress than expected at 2-4 weeks after injury use screening approach
- Acute Low Back Pain Screening Questionnaire (Örebro Musculoskeletal Pain Screening)
- Administered by MD or staff
- Scores over 105 identify 80-85% of those who go on to extended lost time

RISK FACTORS: FEAR-AVOIDANCE

- Avoidance of movement or activity based on the belief it will cause injury or damage (kinesiophobia)

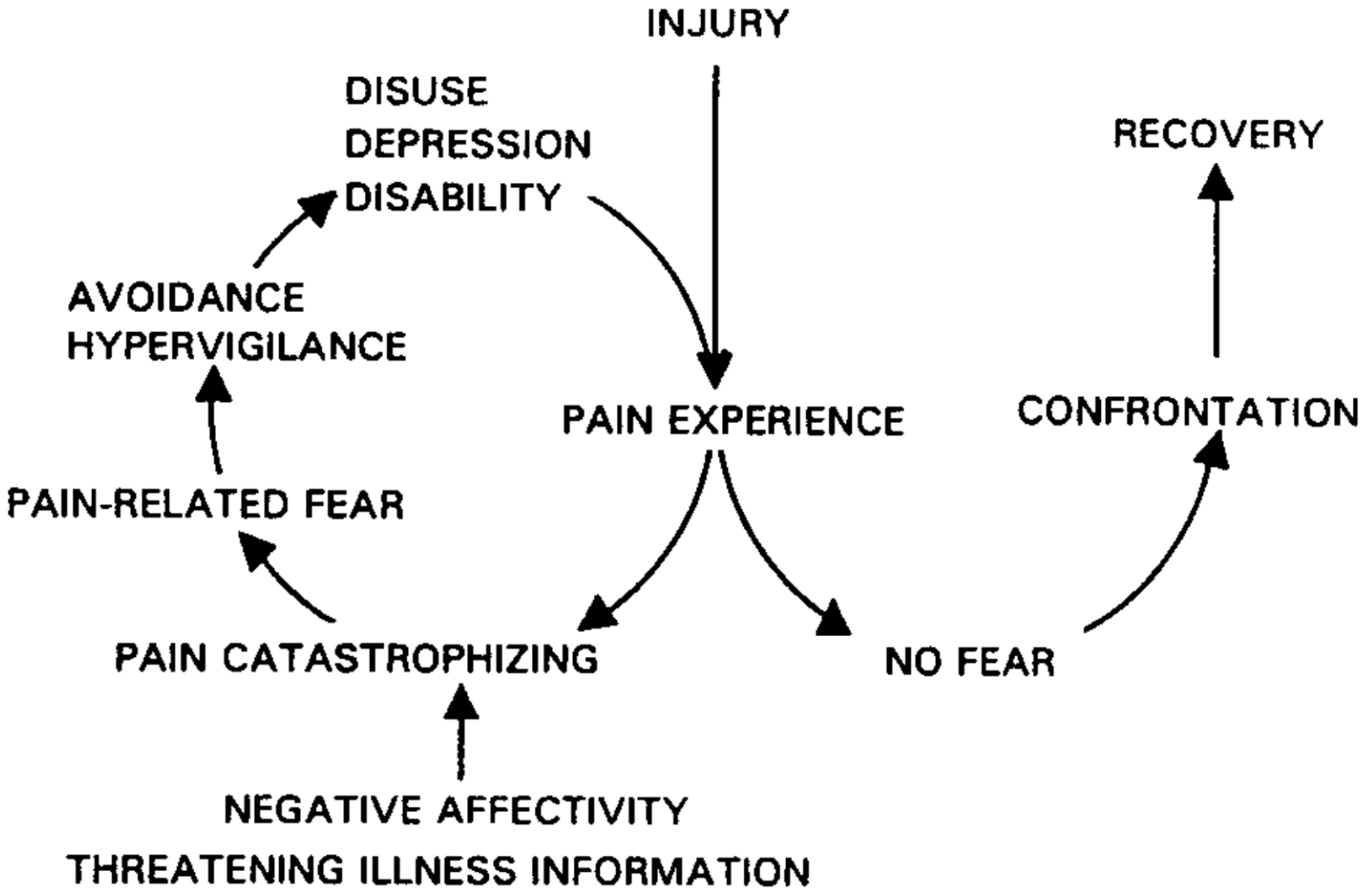
- "Cognitive Theory" of behavior:
    - Beliefs, appraisals, and assessments of experiences produce emotional reactions and behavior

FEAR-AVOIDANCE

- Catastrophic Thinking:
  - Negative appraisals of pain and its consequences (My back is breaking. I'll be paralyzed.)

- Because avoidance occurs in anticipation of pain, it reduces opportunities to correct erroneous beliefs about pain and activity

- Shown to be a powerful influence on chronic pain and disability. **7 X** more powerful than any clinical or historical data in predicting chronic pain one year after a low back injury



From: Vlaeyen and Linton (2000)

ASSESSING FEAR-AVOIDANCE

- **Fear of pain:**
  - Pain and Impairment Relationship Scale **(PAIRS)**
  - Pain Anxiety Symptom Scale **(PASS)**

- **Fear of movement/reinjury:**
  - Tampa Scale for Kinesiophobia **(TSK)**
  - Survey of Pain Attitudes **(SOPA)**

- **Fear activity signals harm:**
  - Fear Avoidance Beliefs Questionnaire **(FABQ)**

- **Risk for Delayed Recovery:**
  - **Orebro Musculoskeletal Pain Questionnaire (OMPQ)**

PREVENTING DELAYED RECOVERY:

ACUTE PHASE OF AN INJURY

PREVENTING DELAYED RECOVERY

- Monitor and screen for ‘yellow flags’ at 4-8 weeks post-injury or when not responding as expected based on objective findings
- EARLY INTERVENTION WITH INDENTIFIED HIGH RISK CASES

ODG - LOW BACK

- "Screen for patients with risk factors for delayed recovery, including fear avoidance beliefs.

- Initial therapy for these "at risk" patients should be physical therapy exercise instruction, using a cognitive motivational approach to PT.

- Consider separate '*psychotherapy*' CBT referral after 4 weeks if lack of progress from PT alone."

ACUTE PHASE OF INJURY

- Short term cognitive-behavioral interventions are recommended

- Not yet developed a significant mental disorder, or identified if a pre-existing condition exists

- Regardless, not necessary to treat as a ‘mental disorder’ or with ‘psychotherapy’ - just address risk factors!

How treat without taking on a *“mental claim?”*

HEALTH AND BEHAVIOR CPT CODES

- The focus of the assessment is on the biopsychosocial factors important to physical health problems and treatments. Not on mental health.

- The focus of the intervention is to improve the patient's health and well-being utilizing cognitive, behavioral, social, and/or psychophysiological procedures designed to ameliorate specific disease related problems.

- Ties to the physical medical diagnosis, *not for evaluation or treatment of mental disorders. Not 'psychotherapy.'*

COGNITIVE-BEHAVIORAL APPROACH

- Focus is on:
  - Thoughts
  - Beliefs
  - Behavior

- Most commonly used and best researched

COGNITIVE-BEHAVIORAL APPROACH

Cognitive Goals:

- Identify and correct cognitive distortions that produce:
  - Fear-Avoidance
  - Catastrophic Thinking
  - Passivity
  - Negative Emotions

COGNITIVE-BEHAVIORAL APPROACH

Cognitive Interventions:

- Education
- Information
- Analysis of beliefs and assumptions
- Development of more accurate adaptive thoughts and beliefs
- Learn to do it <u>independently</u>

COGNITIVE-BEHAVIORAL APPROACH

Behavioral Goals:

- Increase activity
- Decrease pain behavior
- Make pain predictable
- Reduce need for pain medication
- Increase independent self-management of pain

COGNITIVE-BEHAVIORAL APPROACH

Behavioral Interventions:

- Pain diary and activity schedule
- Pacing/task rotation
- Exercise to target rather than tolerance
- Relaxation training to increase awareness and control of physiology: muscle relaxation and breathing
- Biofeedback generally NOT supported by evidence based guidelines for musculoskeletal pain

COGNITIVE-BEHAVIORAL APPROACH

- Demonstrated effectiveness in outcome research in mood disorders, musculoskeletal injuries, chronic pain, and other medical conditions

- **STRONGLY** supported by evidence based guidelines

- Reduced medical utilization: acute high risk injuries, chronic pain, cardiac, arthritis, diabetes, asthma, somatization, general medical settings

- Reduced disability and lost time in acute high risk musculoskeletal injuries

EARLY INTERVENTION
Linton and Andersson (2000)

Back and neck pain with less than 90 days of lost time in prior 12 months

1) Pamphlet Group: advice to remain active and think positively, confront fear of activity
2) Information Package Group: weekly packet encouraging activity, posture, proper lifting
3) Cognitive-Behavioral Group:
   - 12 hours of therapy
   - Used instruction with practice exercises and homework

EARLY INTERVENTION
Linton and Andersson (2000)

Skills:

- Education about causes of pain and prevention
- Problems solving
- Cognitive techniques for appraisals and beliefs
- Relaxation training
- Maintaining daily routines, activity, schedules
- Assertiveness
- Anticipating risks and challenges in adherence to skills

EARLY INTERVENTION
Linton and Andersson (2000)

Over the next 6 months:

- Groups 1 and 2 increased healthcare use and sick days, while CBT group decreased
- Pre-intervention all groups averaged 1 day off per month
- Post-intervention Groups 1 and 2 averaged 3 days off per month while CBT group averaged 0.5

EARLY INTERVENTION
Linton (2002)

- Studies based on risk of long-term disability using the NZ Acute Low Back Pain Screening Questionnaire (Örebro Musculoskeletal Pain Screening Questionnaire)

- Scores > 105 = High risk of extended lost-time. Greatest benefit from early intervention

EARLY INTERVENTION
Linton and Nordin (2006)

5 YEAR FOLLOW UP

- CBT Group had significantly:
  - Less pain, greater daily functioning
  - Less total time off work or on LTD: 12 vs. 41days
  - Lower total healthcare and disability costs:
    - $2,604 vs. $7,253 (annualized)

EARLY INTERVENTION - AUSTRALIA

- Injured hospital workers screened for psychosocial risk factors in first week after injury (modified Orebro Questionnaire)
- Those in the 'high risk' group received 6-12 sessions of cognitive-behavioral therapy focusing on psychosocial and behavioral "yellow flag" issues identified for each injured worker
- Intervention group had 25% lower total claim costs even with the costs of the program included
- Lost time was reduced compared to prior years with the same employer and compared to similar employers.

EARLY INTERVENTION FOR YELLOW FLAGS
Nicholas et. al. (2011)

Review of the literature showed continued support for early identification and intervention.

Best outcomes when:

- Target the high risk group for intervention
- Specific focus on thoughts and beliefs, not just education or reassurance
- Rendered by a psychologist or other behavioral health provider

POTENTIAL BARRIERS

Traditional resistance to dealing with "psych" factors in workers' comp

- Confuses treatment of *clinical mental disorders* with need to address *attitudes and behaviors* that hinder recovery and return to work

- Addressing Attitudes and Behaviors does not require a mental disorder diagnosis or formal psychological or psychiatric treatment. Does require a cognitive behavioral approach by MD, PT, case manager at very least.

POTENTIAL BARRIERS

Too few medical professionals trained in this approach to deal with Attitudes and Behavior

- Focus on tissue damage, symptom elimination, pain, limits rather than capabilities
- Do not recognize or address psychosocial issues
- Takes time and effort and communication - pills and a PT order is easier

POTENTIAL BARRIERS

Failure to address fear-avoidance leaves patient feeling inadequately treated, increasing their fear:

DR: “There is nothing seriously wrong with you. Here is your full duty release - go back to work.”

IW: “If nothing is wrong why am I still hurting?!” (Now no trust with increased symptom focus and fear)

TREATMENT OF MENTAL DISORDERS ONCE PRESENT

EFFECTS OF ‘NEGATIVE EMOTIONS’

Depression, anxiety and anger negatively affect outcomes in:

- Pain, disability, & impairment reports
- Conservative therapy
- Spine surgery
- Spinal cord stimulators
- Multidisciplinary programs

PSYCHOSOCIAL PREDICTORS OF POOR RESPONSE TO TREATMENT

- Depression
- Somatization
- History of childhood abuse
- Axis I - Psychiatric disturbance
- Axis II - Personality disorder

CAUSALITY ISSUES

- “Ordinary disease of life” versus direct result of injury or its treatment
- “Chicken and egg” issue with injury and mental disorders
- Literature is mixed regarding onset
- Similar to physical injuries – different susceptibility and relative level of ‘stress’ physical or mental (osteoporosis and fall)

DIATHESIS - STRESS MODEL

- Predisposition/susceptibility to develop disease (diathesis) + environmental conditions/stressors = manifestation of disease (Ex: heart disease, musculoskeletal injuries, depression, chronic pain)
- “Clinical” causation versus “Statutory” causation/exacerbation/aggravation

CAUSALITY ISSUES

- Causality of mental disorders must be assessed on a case by case basis

- Requires a complete, thorough psychological assessment including objective personality testing

GENERAL TREATMENT GOALS:

- Reduce mood disorders
- Correct cognitive distortions
- Increase active coping/self-care
- Reduce adverse family/social influences
- Reduce adverse effects on medical condition, compliance and recovery

GENERAL GOALS:

- Speed acceptance of, and adjustment to, permanent disability
- Expedite MMI and minimize impairment rating
- Expedite return to work

DEPRESSIVE DISORDERS

- Depressed Mood
- Cognitive Distortions - negative, self-critical, hopeless
- Neurovegetative - sleep, appetite, energy
- Reduction in drive, motivation, pleasure

EFFECTS OF DEPRESSION

Depression Associated With Greater:

- Pain Levels
- Time Off Work
- Amount Of Disability
- Cognitive Distortion
- Complaints And Physical Findings

ANXIETY DISORDERS

- Fear, Apprehension, Worry
- Autonomic Hyperarousal
- Vigilance And Scanning
- Avoidance Behavior
- Includes Panic Disorder
- Pain And Anxiety Both Warning Signals
- Anxiety Lowers Pain Threshold
- Often the Source of “Poor Effort”

POSTTRAUMATIC STRESS DISORDER (PTSD)

- Experience or witness actual or threatened death or serious harm to self or others
- Persistent re-experiencing (thoughts, dreams)
- Persistent autonomic nervous system arousal
- Persistent avoidance of stimuli associated with the trauma

DEPRESSION OUTCOMES

- 50 - 85% recovery rate with proper treatment: cognitive-behavioral (CBT) or interpersonal psychotherapy (IPT), anti-depressants (SSRI), or both
- Addition of CBT reduces relapse rate (25%) vs. medications alone (80%)
- Proper application of therapy essential

ANXIETY OUTCOMES

- 40 - 60 % improvement in Generalized Anxiety Disorder with CBT
- 70 -100% of Panic Disorder symptom free with different types of CBT and/or medication (not benzodiazepines)
- Specific therapies and their application is essential

POSTTRAUMATIC STRESS DISORDER OUTCOMES

- 65%-83% success with proper treatment:
- A variety of cognitive-behavioral therapies depending on symptoms
- Medication: SSRIs, with sertraline, paroxetine, venlafaxine having strongest support (DoD/VA guidelines)

PRACTICAL OUTCOMES

Reduced Medical Utilization: chronic pain, cardiac, arthritis, diabetes, asthma, somatization, general medical settings, on the job injuries

- Reduced Length Of Hospitalization
  - 191 studies
  - Patients receive information, relaxation, active coping
  - Average 2 hours of intervention ($250 or less)
  - Average 1.5 days shorter hospitalization

PRACTICAL OUTCOMES

Reduce aggravation of medical symptoms by learning self-control of nervous system arousal (relaxation, stress management, meditation, etc.)

- 10-WK Relaxation/Stress Management course
- At 2 yr. follow-up 70% decrease in doctor visits
- Control group had 26% increase in doctor visits

PRACTICAL OUTCOMES

- Reduce unnecessary visits and overutilization of medical services by accurately diagnosing and treating mental disorders driving the symptoms and health seeking behavior.
- Depressed chronic pain patients who reduced negative thoughts accompanying depression reduced doctor visits by 36%

SUMMARY

- The biopsychosocial model is a powerful model for understanding health behavior and disability
- We know many of the risk factors for transition from acute injury to chronic disability
- Screen for these factors economically at 4-8 weeks, focusing resources on the high risk cases

SUMMARY

- There are effective, time-limited, cognitive-behavioral interventions that can be administered economically, before there is a true mental disorder or “mental injury” claim issues arise

- These interventions can significantly reduce lost time and overall costs of claims, but still is not a standard practice!

SUMMARY

- For those who develop more significant psychological or chronic pain disorders, there are focused, effective, empirically-validated cognitive-behavioral treatments to reduce barriers to recovery

- EBGs direct to the most effective treatments and prevent ongoing treatment without evidence of improvement

- Providers vary widely in use of EBP, understanding of work injuries, and outcomes. Use providers who have the correct skills and an understanding of the workers' compensation system.

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