ECHO IDAHO: BEHAVIORAL HEALTH IN PRIMARY CARE

Concussion and Mental Health

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The speaker has no relevant financial relationship(s) to disclose.
Learning Objectives

• Following this presentation, learners should be able to:

• Summarize the key findings of research on the overlap between psychological symptoms and prolonged recovery from concussion/mTBI.

• State when it is and is not appropriate to refer patients for neurocognitive evaluation.

• Manage patient expectations regarding recovery from mTBI/concussion.
Recovery Trajectory

(Vincent, Roebuck-Spencer, & Cernich, 2014)
Concussion Symptoms

**Emotional**
- Irritability
- Emotional lability
- Depression
- Anxiety

**Cognitive**
- Slowed processing speed
- Attentional problems
- Executive dysfunction
- Memory Difficulties

**Physical**
- Headaches
- Fatigue
- Insomnia
- Dizziness
Symptom Overlap

Concussion

Depression, Anxiety, Substance Use
Symptom Overlap

- Comorbidities with associated cognitive difficulties
  - PTSD
  - Depression
  - Anxiety
  - Pain
  - Medical conditions
  - Adjustment disorders
  - Substance Abuse
  - Sleep disorders
Research on Symptom Overlap

• In general, there is very little evidence that concussion leads to longer-standing neurocognitive deficits in the absence of other complicating factors.

• Example: In OEF/OIF Veterans, PTSD, depression, and other psychiatric outcomes significantly associated with poorer neuropsychological outcomes.

• Remote history of mTBI (e.g., >6 months post injury) with or without loss of consciousness not associated with cognitive outcomes when these psychiatric factors are taken into account” (Nelson et al, 2012; Shandera-Ochsner et al, 2013; Verfaellie et al, 2013)
“Post-Concussion” in Depression
(Iverson, 2006)

• Patients with Depression
  – ICD-10 Criteria for Post-concussion syndrome
    • Headaches, dizziness, malaise & fatigue, noise intolerance (92.2% mild; 65.6% mod./severe)
    • Irritability, lability, depression, anxiety (87.5% mild; 68.8% mod/severe)
    • Subjective concentration/memory difficulty (78.1% mild; 54.7% mod./severe)
    • Insomnia (78.1% mild; 53.1% mod/severe)
    • Reduced tolerance to alcohol (35.9% mild; 12.5% mod/severe)
    • Preoccupation with Sx’s and fear of brain damage (76.6%; 26.6%)

• Meet Criteria for Post-Concussive Syndrome
  – 89% endorsed three or more symptoms with 57.8% at clinically significant level

• Iverson, McCrae and others have replicated these findings in a large study of athletes (Lovell, et al., 2010)
Psychological Symptoms following mTBI (Broshek et al., 2015)

- Animal models of concussion and mild traumatic brain injury suggest that a concussion can result in anxiety and fear reactions consistent with a cortico-limbic model of depression.
- Additionally, some individuals are at risk for neurobiological depression and/or anxiety following a concussion.
- The literature also demonstrates that pre-morbid and concurrent anxiety increases the risk for prolonged concussion recovery.
- Cognitive biases and misattribution of symptoms contribute to lengthy recovery from concussion.
- In addition, medically prescribed excessive cognitive and physical rest may contribute to a protracted concussion recovery.
- Supervised and graduated physical activity, the introduction of anxiety reduction techniques and cognitive-behavioural therapy of cognitive biases and misattribution are effective means of shortening the length of post-concussion syndrome.
Moderating Patient Expectations: Terminology

History of mild TBI
History of concussion

Has a TBI
Brain damaged
mild TBI patients
Patients with mild TBI
Moderating Patient Expectations

• “Diagnosis Threat” is associated with
  – Decreased memory, attention/working memory & psychomotor speed on testing (Suhr & Gunstad, 2002, 2005)
  – Lower academic self-efficacy (Trontel et al., 2013)
  – More self-reported attention-related errors and everyday memory failures (Ozen et al., 2011)

• Focus on treating the symptoms and education
Moderating Patient Expectations

• Generally: “Misattribution of symptoms to a residual TBI when such symptoms may be secondary to stress, chronic sleep deprivation, PTSD, or other mental health conditions, could iatrogenically reinforce the misconception that these symptoms are permanent.” (Belanger, 2014)

• Also Carefully Consider Appropriateness of Neuropsychological Evaluation Following mTBI
  – Reasons for Referral to Neuropsychology
  – Management vs. Evaluation
Factors Affecting Cognition

- Physical Fitness
- Stress
- Mood
- Diet
- Sleep
- Substance Use/Medication Side-Effects
- Pain
- Neurological Condition
Take Home Message

• There are many factors other than history of concussion that can be contributing to cognitive complaints.

• Primary care physicians and others can BOTH validate a patient’s experience following concussion/mTBI AND manage expectations (avoiding mis-attribution of symptoms to wrong cause).

• Increased need for treatment-oriented options in Idaho as regards psychology and neuropsychology referrals.
References

ECHO Idaho: Behavioral Health in Primary Care

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