Depression and neurocognitive performance after concussion among male and female high school and collegiate athletes.

Kontos AP, Covassin T, Elbin RJ, Parker T.

Source

UPMC Sports Medicine Concussion Program, UPMC Center for Sports Medicine, Department of Orthopaedic Surgery, University of Pittsburgh School of Medicine, Pittsburgh, PA 15203, USA. akontos@pitt.edu

Abstract

OBJECTIVES:

To prospectively examine the relationship of sport-related concussion with depression and neurocognitive performance and symptoms among male and female high school and college athletes. A secondary objective was to explore age and sex differences.

DESIGN:

Pretest, multiple posttest, repeated-measures design.

SETTING:

Laboratory.

PARTICIPANTS:

High school and collegiate athletes (N=75) with a diagnosed concussion.

INTERVENTIONS:

Not applicable.

MAIN OUTCOME MEASURES:

Beck Depression Inventory-II and computerized neurocognitive test battery (Immediate Post-concussion Assessment and Cognitive Test), which includes concussion symptoms (Post-concussion Symptom Scale) at baseline and at 2, 7, and 14 days postinjury.

RESULTS:

Concussed athletes exhibited significantly higher levels of depression from baseline at 2 days (P≤.001), 7 days (P=.006), and 14 days postconcussion (P=.04). Collegiate athletes demonstrated a significant increase in depression at 14 days postconcussion than did high school athletes (P=.03). There were no sex differences in depression levels. Neurocognitive decrements at 14 days were supported for reaction time (P=.001) and visual memory (P=.001). Somatic depression at 7 days postconcussion was related to
slower reaction time at 7 days postconcussion. Somatic depression at 14 days postinjury was related to lower visual memory scores at 14 days postinjury.

CONCLUSIONS:

Although not clinically significant, athletes experienced increased depression scores up to 14 days after concussion that coincided with neurocognitive decrements in reaction time and visual memory. Somatic depression appears to be most salient with regard to lower neurocognitive performance. Mood assessments after concussion are warranted to help monitor and enhance recovery.

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