Stress, Mood, Anxiety, Cortisol, and Injury

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Abstract

It is well established that psychosocial factors play a role in athletic injury occurrence. Williams and Andersen (1998) developed the Stress and Injury Model that depicts the relationship between personality traits, life stress coping resources, and injury in athletes. To date, it is well supported in the literature; however, the current study is novel in that it incorporates salivary cortisol as a biomarker of the stress response, and examines its relation to injury. In this study, the relationship between mood, anxiety, life stress, salivary cortisol, and injury in NCAA field hockey players is examined. Nineteen female (age = 19.63 $\pm$ 1.12 years), NCAA Division I athletes participated in this study. Participants completed baseline surveys for competitive trait anxiety and life stress, provided salivary samples thirty minutes prior to practices and games, and reported mood and hassles weekly. Repeated measures analysis using linear mixed models revealed a significant relationship between concentration disruption and cortisol ($p<0.05$) and total mood disturbance and cortisol ($p<0.01$) respectively. These findings partially support the hypothesis, however no relationship was observed between salivary cortisol and injury onset. Results from this study appear to support the Williams and Andersen model, and advance the literature in the examination of salivary cortisol as a biomarker of the stress response in athletes. Future studies should continue to examine the relationship between cortisol variability and athletic injury onset.

Keywords: cortisol, injury, stress, anxiety, mood, hassles, athletes