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Psychological Markers of the Overtraining Syndrome

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Int J Exerc Sci 2(1): S1, 2009. The overtraining (OT) syndrome is characterized by performance plateaus and decrements and is manifested through various physiological and psychological variables. A qualitative review will summarize specific factors associated with OT to better understand this syndrome. **PURPOSE:** The purpose of this review is to summarize psychological aspects associated with the OT syndrome. **METHODS:** This study reviewed 13 articles that qualified for the inclusion/exclusion criteria. The variables measured include tension, anger, fatigue, confusion, depression, vigor, sleep, stress, and self-perceptions of physical status. Participants were measured during a normal (N) phase, midway phase (MW), and OT phase. In the review, selected variables (i.e., anger, depression, etc.) were noted in terms of direction (+, -) of change in the OT state compared to the N state. **RESULTS:** Combined sample size (N) was 238 subjects with the mean time in OT of 6.6 (weeks). The following are mean (SD) demographics of subjects from the selected studies: height (cm) 175.4 (2.4); weight (kg) 71.7 (2.6); body fat (%) 11.8 (0.9); age (y) 23.5 (2.03); VO_{2max} ($ml \cdot kg^{-1} \cdot min^{-1}$) 55.4 (0.8). Three articles reported decreases in tension at OT, and one noted increases at MW. Fatigue increased at OT in 6 studies and showed no change in a separate study. Confusion did not change in two studies, increased at OT in another, and increased at MW then declined at OT in a final article. Vigor reportedly remained stable in two studies and decreased in two other studies. Anger did not change in 2 articles, decreased in another, and increased in a different study with its peak at MW. There was no change in depression in three studies, but a decrease was reported in a separate article at OT with an increase at MW. Studies reported impaired sleep patterns, increased wakefulness, and decrements and stability in sleep quality. Two studies indicated increased levels of stress with one specifying stress related to training, sleep, and health. Findings showed a decreased perception of strength, decreased perception of recovery, and no change in perception of muscle soreness. **CONCLUSION:** From this review, athletes in an OT state may experience disturbances in various sleep, self-perception, and mood factors.

