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Prolonged fasting in patients with chronic pain syndromes leads to late mood-enhancement not related to weight loss and fasting-induced leptin depletion.

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Abstract

Periods of fasting are practiced worldwide on a cultural/religious background, and related mood-enhancing effects are postulated. We aimed to assess the effect of fasting on mood and to explore the interaction with neuroendocrine activation and leptin depletion in a controlled explorative study on consecutive inpatients (BMI < 35 kg/m²) of a nutritional ward. 36 subjects (38.9 +/- 7.0 years; 29 female, BMI 26.7 +/- 4.1 kg/m²) participated in an 8-day modified fast (300 kcal/day), 19 patients (38.1 +/- 5.9 years; 18 female, 23.5 +/- 4.1 kg/m²) received a mild low calorie diet. Measurements included daily ratings of mood (VAS), weight and levels of leptin and cortisol at four time-points of the 2-week study period. Weight loss was 4.8 +/- 1.2 and 1.6 +/- 0.9 kg in fasters and controls, respectively. Fasters showed a more pronounced decrease of leptin (58% vs. 20%; P < 0.001) and a 17% increase of cortisol levels (P < 0.001). Mood ratings increased significantly in the late phase of fasting (P < 0.01) but were not related to weight-loss, leptin-depletion or cortisol increase. Our findings suggest that fasting induces specific mood-enhancement. The physiological mediator appears to be neither leptin nor cortisol, the role of other mechanisms has to be further studied.

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