

Mood Improves On Low-Fat, but Not Low-Carb, Diet Plan

ScienceDaily (Nov. 12, 2009) — After one year, a low-calorie, low-fat diet appears more beneficial to dieters' mood than a low-carbohydrate plan with the same number of calories, according to a report in the November 9 issue of *Archives of Internal Medicine*, one of the JAMA/Archives journals.

Obese individuals who lose weight tend to have an improved psychological state, including a better mood, according to background information in the article. "Despite the consistency of official recommendations advocating a high-carbohydrate, low-fat, energy-restricted diet for obesity treatment, the obesity epidemic has led to widespread interest in alternative dietary patterns for weight management, including very low-carbohydrate 'ketogenic' diets that are typically high in protein and fat (particularly saturated fat)," the authors write. "While recent clinical studies have shown that low-carbohydrate diets can be an effective alternative dietary approach for weight loss, their long-term effects on psychological function, including mood and cognition, have been poorly studied."

Grant D. Brinkworth, Ph.D., of Commonwealth Scientific and Industrial Research Organisation-Food and Nutritional Sciences, Adelaide, Australia, and colleagues conducted a randomized clinical trial involving 106 overweight and obese participants who were an average age of 50. Of these, 55 had been randomly assigned to follow a very-low-carbohydrate, high-fat diet and 51 to a high-carbohydrate, low-fat diet for one year. Changes in body weight, mood and well-being, and cognitive functioning (thinking, learning and memory skills) were assessed periodically during and following the one-year intervention.

After one year, the overall average weight loss was 13.7 kilograms (about 30.2 pounds), with no difference between the two groups. Both groups initially (after the first eight weeks) experienced an improvement in mood. However, most measurements of mood revealed a lasting improvement in only those following the low-fat diet, while those on the high-fat diet returned to their initial levels (i.e., mood returned toward more negative baseline levels).

"This outcome suggests that some aspects of the low-carbohydrate diet may have had detrimental effects on mood that, over the term of one year, negated any positive effects of weight loss," the authors write. Potential explanations include the social difficulty of adhering to a low-carbohydrate plan, which is counter to the typical Western diet full of pasta and bread; the prescribed, structured nature of the diet; or effects of protein and fat intake on brain levels of serotonin, a neurotransmitter related to psychological functioning.

There was no evidence that the nutrient content of either diet was associated with changes in cognitive function, since both groups experienced similar changes in thinking and memory performance over time. "Further studies are required to evaluate the effects of these diets on a wider range of cognitive domains," the authors conclude.

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1. Brinkworth et al. **Long-term Effects of a Very Low-Carbohydrate Diet and a Low-Fat Diet on Mood and Cognitive Function.** *Archives of Internal Medicine*, 2009; 169 (20): 1873 DOI: [10.1001/archinternmed.2009.329](https://doi.org/10.1001/archinternmed.2009.329)