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Vitamin B6 status improves in overweight/obese women following a hypocaloric diet rich in breakfast cereals, and may help in maintaining fat-free mass.

Rodríguez-Rodríguez E, López-Sobaler AM, Navarro AR, Bermejo LM, Ortega RM, Andrés P.

Departamento de Nutrición, Facultad de Farmacia, Universidad Complutense, Madrid, Spain. elerodri@farm.ucm.es

OBJECTIVE: To analyze the changes in vitamin B6 status in women following slightly hypocaloric diets based on the relative increase consumption of foods whose intakes are below those recommended, and to study how these changes influence the proportion of fat-free mass. DESIGN: Intervention study of two slightly hypocaloric diets: diet V (increased consumption of vegetables), or diet C (increased consumption of cereals, especially breakfast cereals). SUBJECTS: A total of 49 women with a body mass index (BMI) of 25-35 kg/m2. MEASUREMENTS: Dietetic, anthropometric and biochemical data were collected at the start of the study and at 2 and 6 weeks. RESULTS: Both the C and V subjects showed a reduction in their energy intake, body weight, BMI and fat mass. Pyridoxine intake increased in both groups and plasma pyridoxal phosphate (PLP) levels increased only with diet C. An association was found between the increase in plasma PLP at 6 weeks and the increase in pyridoxine intake (r=0.451; P<0.01). Multiple regression analysis showed a positive association between the increase in PLP at the end of the study and the increases in the pyridoxine intake, B6 density or B6/protein ratio. At the end of the study, and only in those women whose PLP levels were increased, the higher the increase in PLP level, the higher the increase in fat-free mass percentage (r=0.4426, P<0.05). CONCLUSIONS: Interventions aimed at weight control should also try to maintain or improve nutritional status. A diet rich in cereals (especially fortified breakfast cereals) appears to be useful in improving vitamin B6 status. Such an improvement could help maintain fat-free mass during periods of weight loss.

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