Longitudinal association between animal and vegetable protein intake and obesity among men in the United States: the Chicago Western Electric Study.

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Abstract
BACKGROUND: Literature on the association of protein intake with body weight is inconsistent. Little is known about the relation of long-term protein intake to obesity.

OBJECTIVE: This study aimed to determine the association between protein intake and obesity.

DESIGN: A cohort of 1,730 employed white men aged 40 to 55 years from the Chicago Western Electric Study was followed from 1958 to 1966. Diet was assessed twice with Burke's comprehensive diet history method at two baseline examinations; height, weight, and other covariates were measured annually by trained interviewers. Generalized estimating equation was used to examine the relation of baseline total, animal, and vegetable protein intake to likelihood of being overweight or obese at sequential annual examinations.

RESULTS: Dietary animal protein was positively related to overweight and obesity across 7 years of follow up. With adjustment for potential confounders (age, education, cigarette smoking, alcohol intake, energy, carbohydrate and saturated fat intake, and history of diabetes or other chronic disease), the odds ratios (95% confidence intervals) for obesity were 4.62 (2.68 to 7.98) (P for trend <0.01) for participants in the highest compared to the lowest quartile of animal protein and 0.58 (0.36, 0.95) (P for trend = 0.053) for those in the highest quartile of vegetable protein intake. A statistically significant, positive association was seen between animal protein intake and obesity; those in higher quartiles of vegetable protein intake had lower odds of being obese.

CONCLUSIONS: These results indicate that animal and vegetable protein may relate differently to occurrence of obesity in the long run.

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