

Abstract

High caloric intake has been associated with an increased risk of cognitive impairment. Total caloric intake is determined by the calories derived from macronutrients. The objective of the study was to investigate the association between percent of daily energy (calories) from macronutrients and incident mild cognitive impairment (MCI) or dementia. Participants were a population-based prospective cohort of elderly persons who were followed over a median 3.7 years (interquartile range, 2.5–3.9) of follow-up. At baseline and every 15 months, participants (median age, 79.5 years) were evaluated using the Clinical Dementia Rating scale, a neurological evaluation, and neuropsychological testing for a diagnosis of MCI, normal cognition, or dementia. Participants also completed a 128-item food-frequency questionnaire at baseline; total daily caloric and macronutrient intakes were calculated using an established database. The percent of total daily energy from protein (% protein), carbohydrate (% carbohydrate), and total fat (% fat) was computed. Among 937 subjects who were cognitively normal at baseline, 200 developed incident MCI or dementia. The risk of MCI or dementia (hazard ratio, [95% confidence interval]) was elevated in subjects with high % carbohydrate (upper quartile: 1.89 [1.17–3.06]; p for trend = 0.004), but was reduced in subjects with high % fat (upper quartile: 0.56 [0.34–0.91]; p for trend = 0.03), and high % protein (upper quartile 0.79 [0.52–1.20]; p for trend = 0.03) in the fully adjusted models. A dietary pattern with relatively high caloric intake from carbohydrates and low caloric intake from fat and proteins may increase the risk of MCI or dementia in elderly persons.