Longitudinal Trajectories of Diet Quality and Subsequent Mortality Among Chinese Adults: Results from the China Health and Nutrition Survey 1997–2015

Ming-wei Liu, Rebecca Leech, Sarah McNaughton, and Qi-qiang He

1Wuhan University; 2Centre for Physical Activity and Nutrition Research (C-PAN), School of Exercise and Nutrition Sciences, Deakin University; and 3School of Health Sciences

Objectives: China has witnessed a significant nutritional transition. But there is a gap in the literature investigating the effect of change of diet on mortality among Chinese. Thus, we aimed to explore the longitudinal trajectories of diet quality over ten years (from 1997 to 2006) and the subsequent risk of death from 2009 through 2015 among Chinese adults.

Methods: Data from the China Health and Nutrition Survey were analyzed in 6398 adults. Dietary intake was assessed using three consecutive 24-h recalls. Diet quality was assessed by the Chinese Healthy Eating Index (CHEI), which includes 17 components and is based on the Dietary Guidelines for Chinese. The Latent Class Growth Analysis was conducted to derive trajectories of diet quality over ten years. And logistic models were used to calculate hazard ratios for total mortality. Models adjusted for age, sex, residence, education, household income, marital status, physical activity, smoke status, BMI, history of hypertension, and history of diabetes.

Results: Four distinct CHEI trajectories were identified: 1) persistently moderate; 2) acutely elevated from low to moderate and steady; 3) high and slightly elevated; 4) acutely descend and acutely elevated to moderate and steady. The “high and slightly elevated” group had the lowest mortality rate (6.0%) in the subsequent 6 years, while the two groups with a history of low diet quality had a higher mortality rate (8.8% for group 2 and 10.7% for group 4). The fully adjusted model showed that, as compared to the “persistently moderate” group, the mortality rates were higher among the two groups with a history of low diet quality. The relative risks and 95% confidence intervals were 1.58 (1.004, 2.47) for group 2 and 1.84 (1.20, 2.81) for group 4. Results for the “high and slightly elevated” group was not significant.

Conclusions: Long-term improved diet quality and adherence to the Dietary Guidelines for Chinese may decrease the risk of death in Chinese adults.

Funding Sources: None.