The Association Between Dietary Purine Intake and Mortality: Evidence From the CHNS Cohort Study

Miaojia Yan, Lichen Wu, Yutong Wang, Huimeng Liu, Shaonong Dang, Hong Yan, and Baibing Mi
Xi’an Jiaotong University Health Science Center

Objectives: To investigate the association between dietary purine intake and mortality among Chinese adults.

Methods: Based on data from the 2004–2015 China Health and Nutrition Survey (CHNS) and the corresponding edition of China Food Composition, the average purine intake per day from 2004 to 2011 was calculated and divided into five groups by quintiles. The outcome event and time we concerned were defined as self-reported death and time in 2015 survey. Cox proportional hazards regression was used to estimate hazard ratios (HR) with 95% confidence intervals (CIs) for death. The possibly non-linear relation between purine intake and mortality was examined with restricted cubic splines.

Results: We included 17,751 subjects and the average purine intake among them was $329.14 \pm 142.74$ mg/day. Purine intake was inversely associated with mortality ($P = 0.002$). Compared with the lowest quintiles, the HRs (95% CI) of the highest quintiles were 0.60 (0.46, 0.77) for purine ($P < 0.001$). Besides, a U-shaped relationship between purine intake and mortality was observed in males; however, there is no dose-response relationship in females.

Conclusions: Under the low purine intake levels of the Chinese population, purine intake showed a protective effect. We observed a U-shaped relationship between purine intake and mortality in men but not found in women.

Funding Sources: National Key R&D Program of China (2017YFC0907200, 2017YFC0907201).