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Relationship of lycopene intake and consumption of tomato products to incident CVD.

Jacques PF, Lyass A, Massaro JM, Vasan RS, D'Agostino Sr RB.

Jean Mayer US Department of Agriculture Human Nutrition Research Center on Aging, Tufts University, 711 Washington Street, Boston, MA 02111, USA.

Abstract

Evidence for cardioprotective effects of **lycopene** is inconsistent. Studies of circulating **lycopene** generally report inverse associations with CVD risk, but studies based on **lycopene** intake do not. The failure of dietary studies to support the findings based on biomarkers may be due in part to misclassification of **lycopene** intakes. To address this potential misclassification, we used repeated measures of intake obtained over 10 years to characterise the relationship between **lycopene** intake and the incidence of CVD (n 314), CHD (n 171) and stroke (n 99) in the Framingham Offspring Study. Hazard ratios (HR) for incident outcomes were derived from Cox proportional hazards regression models using logarithmically transformed **lycopene** intake adjusted for CVD risk factors and correlates of **lycopene** intake. HR were interpreted as the increased risk for a 2·7-fold difference in **lycopene** intake, a difference approximately equal to its interquartile range. Using an average of three intake measures with a 9-year follow-up, **lycopene** intake was inversely associated with CVD incidence (HR 0·83, 95 % CI 0·70, 0·98). Using an average of two intake measures and 11 years of follow-up, **lycopene** intake was inversely associated with CHD incidence (HR 0·74, 95 % CI 0·58, 0·94). **Lycopene** intake was unrelated to stroke incidence. The present study of **lycopene** intake and CVD provides supporting evidence for an inverse association between **lycopene** and CVD risk; however, additional research is needed to determine whether **lycopene** or other components of tomatoes, the major dietary source of **lycopene**, are responsible for the observed association.

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