

DIETARY ZINC INTAKE AND THE RISK OF DEPRESSION IN MIDDLE-AGED MEN: A 20-YEAR PROSPECTIVE FOLLOW-UP STUDY

S.M. Lehto¹, A. Ruusunen², T. Tolmunen¹, S. Voutilainen², J. Kauhanen², T.-P. Tuomainen²

¹Department of Psychiatry, ²Institute of Public Health and Clinical Nutrition, University of Eastern Finland, Kuopio, Finland

Introduction: Zinc is an immunomodulatory trace element suggested to be beneficial in the augmentation of antidepressant therapy. Cross-sectional studies have also demonstrated an association between low dietary zinc intake and depression. However, to the best of our knowledge, no long-term prospective studies have examined the impact of dietary zinc intake on the risk of depression.

Objectives: To examine whether low dietary zinc in initially depression-free men associated with an increased incidence of depression during a 20-year follow-up.

Methods: The population-based Kuopio Ischaemic Heart Disease Risk Factor (KIHD) Study comprised 2641 Finnish men aged 42-61 years. Zinc intake was assessed at baseline by a 4-d food record and was also re-assessed for a random subsample (n = 50) on 1-year follow-up (correlation between assessments 0.68, p < 0.001). Depression was defined as having received a hospital discharge diagnosis of unipolar depressive disorder. The discharge data were derived from the National Hospital Discharge Register in 2010. Individuals who at baseline had elevated depressive symptoms or a history of mental illness were excluded (n = 345).

Results: Altogether, 2169 (94.5%) participants reached the Finnish zinc RDI for men (9 mg/day), and 58 (2.5%) received a depression diagnosis during the 20-year follow-up. In Cox regression analysis adjusted for age, smoking, alcohol use, energy expenditure, dietary supplement use and education years, the energy-adjusted zinc intake was not associated with depression (RR 1.01, 95% CI 0.95-1.09).

Conclusions: A low dietary zinc intake may not induce an increased depression risk in middle-aged men.