

Abstract

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A high menaquinone intake reduces the incidence of coronary heart disease.

Gast GC, de Roos NM, Sluijs I, Bots ML, Beulens JW, Geleijnse JM, Witteman JC, Grobbee DE, Peeters PH, van der Schouw YT.

Julius Center for Health Sciences and Primary Care, University Medical Center Utrecht, 3508 GA Utrecht, The Netherlands.

BACKGROUND AND AIM: Vitamin K dependent proteins have been demonstrated to inhibit vascular calcification. Data on the effect of vitamin K intake on coronary heart disease (CHD) risk, however, are scarce. To examine the relationship between dietary vitamins K(1) and K(2) intake, and its subtypes, and the incidence of CHD.

METHODS AND RESULTS: We used data from the Prospect-EPIC cohort consisting of 16,057 women, enrolled between 1993 and 1997 and aged 49-70 years, who were free of cardiovascular diseases at baseline. Intake of vitamin K and other nutrients was estimated with a food frequency questionnaire. Multivariate Cox proportional hazards models were used to analyse the data. After a mean \pm -SD follow-up of 8.1 \pm -1.6 years, we identified 480 incident cases of CHD. Mean vitamin K(1) intake was 211.7 \pm -100.3 microg/d and vitamin K(2) intake was 29.1 \pm -12.8 microg/d. After adjustment for traditional risk factors and dietary factors, we observed an inverse association between vitamin K(2) and risk of CHD with a Hazard Ratio (HR) of 0.91 [95% CI 0.85-1.00] per 10 microg/d vitamin K(2) intake. This association was mainly due to vitamin K(2) subtypes MK-7, MK-8 and MK-9. Vitamin K(1) intake was not significantly related to CHD.

CONCLUSIONS: A high intake of menaquinones, especially MK-7, MK-8 and MK-9, could protect against CHD. However, more research is necessary to define optimal intake levels of vitamin K intake for the prevention of CHD.

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