High plasma levels of vitamin E forms and reduced Alzheimer's disease risk in advanced age. F. Mangialasche, M. Kivipelto, P. Mecocci, D. Rizzuto, K. Palmer, B. Winblad, L. Fratiglioni, *J. Alzheimer Dis.*, **20**, 1029-1037 (2010).

In this study we investigated the association between plasma levels of eight forms of vitamin E and incidence of Alzheimer's disease (AD) among oldest-old individuals in a population-based setting. A dementia-free sample of 232 subjects aged 80+ years, derived from the Kungsholmen Project, was followed-up to 6 years to detect incident AD. Plasma levels of vitamin E (α-, β-, γ, and δ-tocopherol; α-, β-, γ-, and δ-tocotrienol) were measured at baseline. Vitamin E forms-AD association was analyzed with Cox proportional hazard model after adjustment for several potential confounders. Subjects with plasma levels of total tocopherols, total tocotrienols, or total vitamin E in the highest tertile had a reduced risk of developing AD in comparison to persons in the lowest tertile. Multi-adjusted hazard ratios (HRs) and 95% confidence interval (CI) were 0.55 (0.32–0.94) for total tocopherols, 0.46 (0.23–0.92) for total tocotrienols, and 0.55 (0.32–0.94) for total vitamin E. When considering each vitamin E form, the risk of developing AD was reduced only in association with high plasma levels of β-tocopherol (HR: 0.62, 95% CI 0.39–0.99), whereas α-tocopherol, α-tocotrienol, and β-tocotrienol showed only a marginally significant effect in the multiadjusted model [HR (95% CI): α-tocopherol: 0.72 (0.48–1.09); α-tocotrienol: 0.70 (0.44–1.11); β-tocotrienol: 0.69 (0.45–1.06)]. In conclusion, high plasma levels of vitamin E are associated with a reduced risk of AD in advanced age. The neuroprotective effect of vitamin E seems to be related to the combination of different forms, rather than to α-tocopherol alone, whose efficacy in interventions against AD is currently debated.