

## **Is the evidence sufficient to recommend dietary interventions to reduce risk of Alzheimer's disease progression – Con?**

T. Hartmann

*Experimental Neurology, Deutsches Institute für Demenz Prävention, Saarland University, Germany*

A healthy diet is always advisable. This abstract is on a different topic – AD therapy. Physical activity/sport was a favorite for dementia intervention. On best intentions some institutions implemented it. Lamb (BMJ 2018) conducted an informative trial and found no benefit, even worse, they noted a risk for accelerated disease progression. There is no place for wishful thinking or to apply lesser scientific standards to dietary intervention as to any other therapeutic research in the AD continuum. Effect size is humbling small for the established drug treatment. Picking up the treatment signals in a dietary intervention is no less challenging; or should some olives and fish consumed trigger a massive boost in CERAD or CDR performance? Human diet is a difficult object for scientific study. Yet knowledge of what constitutes a healthy diet appears omnipresent. Much of that perceived knowledge derives from observational studies which provide no evidence on causality. No *prospective* trial on dietary habits exists that prevented or slowed AD; not the Mediterranean diet, nor any you-name-it dietary habit. Worse for nutrients. Hardly a drug-store nutrient not proposed for AD; based on a range of entirely reasonable to wholly absurd sounding theories; or single case studies, of zero statistical value. In AD we are in the front seat knowing that the most convincing hypothesis rarely survives a prospective human trial. Compared to decades of utter failure, trials in early AD/at-risk populations are astonishing. Drug, non-pharmacological/nutrient and multimodal trials collectively suggest a turning point, although much remains to be desired. Diet-based AD therapy should be applied based on relevant prospective evidence. Mostly, this simply isn't yet available for your favorite diet. In that case your favorite diet may find its proper place in general health advice, or subject to further scientific study, but not in *AD* therapy.