Abstract

Title: Can supplementation with vitamin E improve cognitive function in Alzheimer's disease?

Author: Malin Andersson and Elin Löfqvist

Supervisor: Elisabet Rothenberg

Examiner: Anna Winkvist

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Background: Alzheimer’s disease (AD) is the most common form of dementia. As the average life expectancy rises the prevalence increases. The disease leads to gradual deterioration of cognitive functions. A recent Cochrane review describes how several studies demonstrate an increased oxidative damage in the brain in those with AD. Vitamin E works as an antioxidant which has led to an interest in the vitamin in the treatment of AD.

Objective: To study the evidence if supplementation with vitamin E can improve cognitive function in AD.

Search strategy: The literature search was performed in the databases Pubmed and Scopus. The keywords used were “Alzheimer's disease”, “vitamin E supplement,” “tocopherol” and “antioxidants” in different combinations.

Selection criteria: RCT or cohort human studies in Swedish/English on diagnosed AD were included. Articles not available online, studies in which participants received supplementation with additional substances/vitamins other than vitamin E as well as studies conducted without a placebo group were excluded.

Data collection and analysis: Two RCT were selected and evaluated according to ”Granskningsmall för RCT” developed by SBU. Further, grading of the evidence was made according to ”Sammanfattande evidensformulär”, which is based on GRADE.

Main results: One study showed no differences in two of three cognitive tests. Where differences were seen, with a benefit with treatment, adjusting Post hoc analyzes had been used. The other study showed opposing results within the same intervention group where one part improved- and another part of the group impaired their cognitive function.

Conclusions: The scientific basis for conclusion that vitamin E has an effect on cognitive function in AD is judged as inadequate. Strength of the evidence is valued as very low where the insufficient study quality and low heterogeneity are major contributing factors. More studies are needed to possibly be able to recommend supplementation with vitamin E in AD.