Abstract

Title: D for depression: Does vitamin D supplementation have a palliative effect on depressive symptoms? – A systematic review

Author: Emelie Nacksten and Lua Ferreira Rangel

Supervisor: Fredrik Bertz
Examiner: Ingrid Larsson
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Background
Depression is one of the major diseases in the world and is ranked by the WHO as the leading cause of disability. Several studies suggest that there is a correlation between low s-25(OH)D levels and the occurrence of depression. Current research has found enzymes required for synthesis of the active form of vitamin D and its receptors (VDR) in the brain. The potential role of the vitamin as a neuroactive steroid has resulted in an increased interest in investigating the role of vitamin D in the treatment of depression.

Objective
Study the scientific evidence to determine if vitamin D supplementation can relieve depressive symptoms in adults.

Search strategy
The literature search was conducted in the databases Scopus, Pubmed, Cochrane and PsychInfo. The keywords used were "vitamin D", "depression", "vitamin D supplementation" and "depressive disorder" in various combinations.

Selection criteria
RCT studies, with a placebo control group, in Swedish/English that assesses depressive symptoms with BDI-II in adults (≥ 18 years). Studies that examined other mental disorders, had different study designs, or studies that used multivitamin as an intervention were excluded.

Data collection and analysis
Three RCT studies were included for review and assessment of study quality and relevance using SBU’s "Granskningsmall för randomiserade studier". Furthermore grading of evidence was conducted according to GRADE’s “Sammanfattande evidensformulär”.

Main results
One study showed a modest palliative effect of vitamin D supplementation on depressive symptoms. The other two studies found no significant difference between the placebo group and the intervention group.

Conclusions
After evaluating the existing scientific literature, we believe that there is little evidence to recommend vitamin D supplements for alleviating depressive symptoms in adults. For relief of depressive symptoms measured by the BDI-II score, in cases of minimum depression or none at all, there is no clear effect of vitamin D supplementation. The strength of evidence is low, however. For more severe degrees of depression, we found no scientific studies to assess the effect of vitamin D supplements in the literature search. More research is needed on the subject that can confirm or reject vitamin D’s role in depressive disorders.