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**Effects of vitamin D on patients with fibromyalgia syndrome: a randomized placebo-controlled trial.**Wepner F¹, Scheuer R², Schuetz-Wieser B², Machacek P², Pieler-Bruha E², Cross HS³, Hahne J², Friedrich M².

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Abstract

The role of calcifediol in the perception of chronic pain is a widely discussed subject. Low serum levels of calcifediol are especially common in patients with severe pain and fibromyalgia syndrome (FMS). We lack evidence of the role of vitamin D supplementation in these patients. To our knowledge, no randomized controlled trial has been published on the subject. Thirty women with FMS according to the 1990 and 2010 American College of Rheumatology criteria, with serum calcifediol levels <32ng/mL (80nmol/L), were randomized to treatment group (TG) or control group (CG). The goal was to achieve serum calcifediol levels between 32 and 48ng/mL for 20weeks via oral supplementation with cholecalciferol. The CG received placebo medication. Re-evaluation was performed in both groups after a further 24weeks without cholecalciferol supplementation. The main hypothesis was that high levels of serum calcifediol should result in a reduction of pain (visual analog scale score). Additional variables were evaluated using the Short Form Health Survey 36, the Hospital Anxiety and Depression Scale, the Fibromyalgia Impact Questionnaire, and the Somatization subscale of Symptom Checklist-90-Revised. A marked reduction in pain was noted over the treatment period in TG: a 2 (groups)×4 (time points) variance analysis showed a significant group effect in visual analog scale scores. This also was correlated with scores on the physical role functioning scale of the Short Form Health Survey 36. Optimization of calcifediol levels in FMS had a positive effect on the perception of pain. This economical therapy with a low side effect profile may well be considered in patients with FMS. However, further studies with larger patient numbers are needed to prove the hypothesis.

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KEYWORDS: Anxiety; Cholecalciferol; Comorbidities; Depression; Fibromyalgia syndrome; Pain perception; Vitamin D

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