

Vitamin D Deficiency And Uterine Fibroids: A Systematic Review

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Abstract

OBJECTIVE: To evaluate the relationship between vitamin D deficiency and uterine fibroids.

DESIGN: Systematic literature review.

MATERIALS AND METHODS: Studies evaluating the relationship between vitamin D and uterine fibroids in humans were identified by searching Cochrane Library, Embase, PubMed, Scopus, and Web of Science in accordance with the PRISMA guidelines in collaboration with an experienced medical librarian. Any English-language publication evaluating the relationship between vitamin D and uterine fibroid in humans was included.

RESULTS: The initial search yielded a total of 1602 articles. A total of 642 duplicates were removed, leaving 960 unique citations. After screening the title and abstract of the 960 articles identified, 163 articles were considered for full review. A total of 89 studies met complete inclusion criteria, 25 of which were clinical articles evaluating the relationship between fibroids and vitamin D deficiency. Fourteen clinical studies (n=3535 participants) assessed serum vitamin D level in women with ultrasound-proven fibroids and all found an inverse correlation between serum vitamin D level and presence of fibroids. These studies took place in diverse demographic groups and multiple geographic settings. Vitamin D deficiency approximately doubles the risk of uterine fibroids. Five clinical studies (n=472 patients) evaluated treatment of fibroids with vitamin D in women with deficiency. Four of five studies showed vitamin D significantly inhibited fibroid growth. One well-designed pilot study (n=109 patients) of vitamin D for secondary prevention of fibroids demonstrated a lower risk of recurrence and smaller recurrent fibroids in the treated group.

CONCLUSIONS: The association between uterine fibroids and hypovitaminosis D exists across racial groups and geographic locations with remarkably consistent findings between studies. Some evidence suggests that vitamin D may be beneficial for the treatment of uterine fibroids. Routine vitamin D supplementation for women with insufficiency might provide effective treatment or prevention of this prevalent and costly disease.

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