

EFFECT OF VITAMIN D ON PELVIC FLOOR DISORDERS AND INCONTINENCE - A SYSTEMATIC REVIEW

Hypothesis / aims of study

We aimed to systematically characterise the association between Vitamin D and pelvic floor disorders including incontinence.

Study design, materials and methods

This review was conducted in adherence with Preferred Reporting Items for Systematic Reviews. Citations were retrieved using a comprehensive database search [inception to June 2016: CINAHL, Cochrane, EMBASE, Medline and SIGEL and grey literature]. Search strategies consisted of MeSH subheadings for the concepts of Vitamin D and its relation to pelvic floor disorders and incontinence. Information regarding study characteristics and primary outcomes was collated.

Results

45 citations were identified, 15 studies fulfilled the inclusion criteria of which 8 (4 longitudinal prospective observational studies, 1 randomised controlled study, 1 case –control study, 1 case series, 1 retrospective study) were included in the systematic review. A multicentre, double blind randomised placebo controlled trial included women (n=308) with overactive bladder symptoms to receive either placebo or elocalcitol(1). The study found elocalcitol to be effective and well tolerated drug for management of overactive bladder symptoms. A cross-sectional analysis of the National Health and Nutrition Examination Survey (NHANES) reported significantly decreased risk of pelvic floor disorders with increasing Vitamin D levels in women aged 20years or older (OR 0.94 95% CI 0.88-0.99) and in women aged 50 years and older (OR 0.92 95% CI 0.85-0.99) (2).

Interpretation of results

From the NHANES 2005-2006 survey, it was noted that vitamin D level was inversely proportional to the risk of pelvic floor disorders in all women (p=0.043) including those aged 50 and older (p=0.022) (2). Dallosso et al, in their longitudinal study found that a higher dietary vitamin D intake was associated with lower risk of overactive bladder symptoms (p<0.01) (3).

Vitamin D has a pleiotropic effect. Clinicians should consider correction of Vitamin D deficiency as an adjunct to the routine conservative therapies offered to patients with pelvic floor disorders and incontinence.

Concluding message

There is plausibility that Vitamin D supplementation may have complementary effect to the conservative therapies in decreasing the risk of pelvic floor disorder and incontinence. We need robustly designed RCTs to prove this beyond doubt.

References

1. Digesu GA, Verdi E, Cardozo L, Olivieri L, Khullar V, Colli E. Phase IIb, multicenter, double-blind, randomized, placebo-controlled, parallel-group study to determine effects of elocalcitol in women with overactive bladder and idiopathic detrusor overactivity. *Urology*. 2012;80(1):48-54
2. Badalian SS, Rosenbaum PF. Vitamin D and pelvic floor disorders in women: results from the National Health and Nutrition Examination Survey. *Obstet Gynecol*. 2010;115(4):795-803.
3. Dallosso HM, McGrother CW, Matthews RJ, Donaldson MM, Leicestershire MRCISG. Nutrient composition of the diet and the development of overactive bladder: a longitudinal study in women. *Neurourol Urodyn*. 2004;23(3):204-10

Disclosures

Funding: None **Clinical Trial:** No **Subjects:** NONE