



Master of Science in Community Nutrition, College of Health Science, West Chester University

Background

- >300 million adults currently diagnosed with major depression
- Depression is projected to be the largest contributor to mental disorders within next 12 years
- Clinical treatments exist but aren't always available in places lacking resources/healthcare providers
- Vitamin D and mood studied previously first associated with Seasonal Affective Disorder (SAD)
 - Low levels compromise receptors and pathways 41% US adults are Vitamin D deficient; vitamin D deficiency
- rate has increased globally
- Previous research (2014) found correcting vitamin D levels through supplementation was just as effective for depression management as antidepressants

Methods

Inclusion:

- Adults ages 18 and older
- Randomized Controlled Trials
- Articles published 2015-2018
- Articles peer reviewed, published in English
- Full text articles •
- Human subjects
- Control group \bullet

Problem	Intervention	
depress*	vitamin D supplement	
major depression	vitamin D3 supplement	
depressive symptoms	vitamin D2 supplement	
mood	vitamin D therapy	
bipolar depression		

Exclusion:

- 2015
- Child/Adolescent subjects Alternate form of disease • No control group Lack of data due to secondary outcome

The Effect of Vitamin D Supplementation on **Depressive Symptoms in Adults: A Systematic Review** Natalie Versaggi, MSCN, NDTR

Articles published before

Subjects adults

older adults

young adults

elderly

Results

2 positive results

- Significant changes between treatment & placebo 5 negative results
- o 3 significant change within treatment group only, nonsignificant change between treatment & placebo o 1 significant change within both groups separately, nonsignificant change between groups
- o 1 non-significant change in both groups

Dosing Techniques

Daily Dosing

2000 IU 1x/day

4000 IU 1x/day, initial 100,000 IL

5000 IU 1x/day

7000 IU 1x/day week 1-14, 1400 1x/day week 14-48

Either 400, 800, 1600, 2400, 320 or 4800 IU 1x/day

Vitamin D Deficiencies (5 studies)

- 2 measured 25-(OH)D levels \leq 50 ng/dL
- 1 measured 25-(OH)D levels < 30 ng/dL
- 2 measures 25-(OH)D levels < 20 ng/dL***

***significant increases in depression scores between treatment and placebo groups found

Vitamin D levels improved significantly in all deficient subjects (p < .05)

	Weekly Dosing
	50,000 IU 1x/week
U bolus	
) IU	
0, 4000,	

Very high doses of vitamin D supplementation administered because of deficiency • Bolus 100,000 IU was potentially trying to correct

- deficiency

- *Most participants within all studies had diagnosed depression
- for this population

- activity
- placebo groups
- improve symptoms

Recommendations

- MDD)



Discussion

• Two studies with very deficient vitamin D levels saw most significant changes – correlation between level of depression and levels of vitamin D Variety of medical conditions among studies Major depressive disorder (2 studies) Overweight/obesity (2 studies) Vitamin D deficiency (1 study) Multiple sclerosis (1 study) Adults undergoing dialysis (1 study)

• Significantly improved depression scores in adults with major depression – supplementation more helpful

Vitamin D + additional interventions • One study – vitamin D supplementation + physical

Depression scores improved between treatment and

Vitamin D combined with additional interventions could

• Further research that focuses on specific group of adults with one particular medical condition (eg.,

Study one or more interventions along with vitamin D supplementation to determine if a combination of methods is more beneficial