

VITAMIN D IN FALL RISK PREVENTION IN THE ELDERLY: CURRENT LITERATURE REVIEW

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Background

- The lack of vitamin D and calcium are associated with osteoporosis, osteomalacia, falls and fractures in old age.
- This study aims to investigate into the impact of vitamin D on prevention of falls in the elderly.

Material & Methods

- The PubMed database has been searched using the keywords: fall risk, vitamin D, older population.
- The search was narrowed down to the contributions published in the last 10 years.

Results

- The search yielded 7 publications that satisfied the inclusion criteria. Vitamin D deficiency in older age can range from the 30th to the 50th percentile.
- Vitamin D serum levels were inversely associated with the first fall risk.
- This effect was more prominent in patients who were vitamin D-deficient at baseline and those co-administered with calcium.
- The quality of the evidence is low to moderate due to the heterogeneity and publication bias.

Vitamin D supplementation for prevention of falls in elderly people.				
Patients	Elderly people			
Intervention	Vitamin D			
Comparison	Placebo/Calcium/Control			
Outcomes	Absolute effect*		Relative effect (95% CI)	Certainty of the evidence (GRADE)
	WITH vitamin D	WITHOUT vitamin D		
	Difference: patients per 1000			
Falls	344 per 1000	330 per 1000	RR 0.96 (0.91 to 1.02)	⊕⊕⊕○ ¹ Moderate
	Difference: 14 patients less per 1000 (Margin of error: 31 less to 7 more)			
Margin of error = confidence interval 95%.				
RR: Relative Risk.				
GRADE: grade levels of evidence of the GRADE Working Group (see back page).				
* The risks WITHOUT vitamin D are based on the risk in the control group in the studies. The risk WITH vitamin D (and its margin of error) is calculated from the relative effect (and its margin of error).				
¹ We downgraded the certainty of the evidence in one level for inconsistency (I ² =75%).				

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Conclusion

- The intake of vitamin D in the elderly is often insufficient and can be related to falls and fractures.
- In order to improve nutrition and health of the elderly residing in the Republic of Croatia, their nutrition status should be monitored, and their dietary habits evaluated on a regular basis.
- Should such a need arise, and should the attending physician so recommend, vitamin D supplements should be administered, combined with an appropriate physical activity.