

[2008] [FRI0380] PREVALENCE OF VITAMIN D INADEQUACY IN INSTITUTIONALIZED OSTEOPOROTIC POSTMENOPAUSAL WOMEN

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Objectives: The reduced capacity of older skin to synthesize vitamin D3 under the influence of ultraviolet light make older persons at risk of vitamin D deficiency. The risk could even be increased in institutionalized persons because of their lower sunshine exposure. It has been reported that inadequate vitamin D level is associated with secondary hyperparathyroidism, increased bone turnover and bone loss, which increase fracture risk. The objective of this study is to assess the prevalence of inadequate serum vitamin D levels in institutionalized postmenopausal osteoporotic women.

Methods: Assessment of 25-Hydroxyvitamin D [25(OH)D] was performed in 445 institutionalized osteoporotic women from nine countries (Australia, Belgium, France, Germany, Hungary, Italy, Poland, Spain, United Kingdom). For each institutionalized woman, 3 age-matched non-institutionalized controls were also included. Four cut-offs of 25(OH)D inadequacy were fixed: <80, <75, <50 and <30 nmol/L.

Results: Mean (SD) age was 79.7 (5.8) years for the institutionalized women and 79.5 (5.5) for the non-institutionalized women ($p=0.45$). Significantly less institutionalized women received vitamin D supplements (13.2% vs 24.1%, $p<0.0001$). In women without vitamin D supplements, the level of 25(OH)D was significantly lower in institutionalized women (56.9 (24.7) nmol/L) compared to non-institutionalized women (63.5 (21.6) nmol/L, $p<0.0001$). In institutionalized women, the prevalence of 25(OH)D inadequacy was 10.7%, 42.8%, 78.9% and 82.9% when considering cut-offs of 80, 75, 50 and 30 nmol/L, respectively. In the control group, the prevalence was 2.8%, 23.2%, 76.2% and 82.9%, respectively. As a matter of fact, the prevalence of vitamin D inadequacy was significantly higher in institutionalized women when considering the 50 and 30 nmol/L cut-off ($p<0.001$) but not when considering the 80 and 75 nmol/L cut-off ($p=0.15$ and 0.17 , respectively).

Conclusion: This study points out a high prevalence of vitamin D inadequacy in institutionalized osteoporotic women. Compared to age-matched controls, the prevalence of very severe vitamin D inadequacy was particularly more important in institutionalized women. We believe that a greater awareness of the importance of vitamin D inadequacy is needed to address this public health problem.

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Osteoporosis

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