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Letter to the Editor

Vitamin D Supplementation in Older Persons: Guidelines Versus Practice

To the Editor:

Older individuals are particularly susceptible to vitamin D deficiency as a result of an age-related reduction of cholecalciferol production in the skin, limited exposure to direct sunlight, comorbidity, polypharmacy, and inadequate nutritional intake.[1] A survey in Europe (SENECA) among community-dwelling older people (aged ≥80 years) without vitamin D supplementation showed that 36% of older men and 47% of older women had serum 25(OH)D concentration levels ≤30 nmol/L.[2] In nursing home residents, the prevalence of vitamin D deficiency can rise to 98% to 100%.[3]

In 2008, the Dutch Health Council recommended vitamin D supplementation in nursing home residents and for older persons with dark skin.[4] In 2012 this advice was renewed, targeting all people aged ≥70 years to use supplementation of 800 IU vitamin D per day.[5]

The aim of this study was to explore the vitamin D–prescribing behavior of elderly care physicians (ECPs; who are specialized as a primary care expert in geriatric medicine, usually working in nursing homes) and of general practitioners (GPs) in persons aged ≥70 years and to examine a possible trend in this behavior.

A survey was administered between December 15, 2017, and January 30, 2018, to all (1685) ECPs and 310 GPs in the Netherlands. The ECPs were asked to participate in the survey using the Survey Monkey platform. They were invited to participate via a newsletter of the national professional association for elderly care physicians (Verenso), the Dutch Academic Networks Elderly Care (SANO), or via a general information letter sent to their working locations. At a continuing vocational training day for GPs (December 15, 2017), 310 physicians were approached by the investigator to complete the survey (which was part of the program). The survey was completed by 414 ECPs and 310 GPs. The questions of the survey covered 3 domains: (1) knowledge of the 2012 vitamin D supplementation advice of the Dutch Health Council and their attitude toward it, (2) active vitamin D prescription behavior and dosage prescribed, and (3) attitude toward monitoring 25(OH)D before and after supplementation.

The results of the survey were analyzed as absolute and relative frequencies, and they were compared with a similar survey conducted in 2010 among a group of 648 ECPs and 40 GPs in the Netherlands (Table 1).

The present survey among physicians in the Netherlands who practice in nursing homes (ECPs) and in the community (GPs) shows an increasing awareness of the importance of vitamin D supplementation in older people. Most ECPs (94.2%) and more than a third of GPs (34.0%) prescribed vitamin D systematically (consistent with the guidelines) for patients aged ≥70 years; a comparison with 2010 showed a trend of an increase in the prescribing of vitamin D supplementation.

Differences in the prescribing behavior of ECPs and GPs might be explained by differences in the populations taken care of by these physicians. It is no longer questioned whether all nursing home residents should receive vitamin D supplementation;[6] it is now regarded a standard of good care. On the other hand, GPs may need to overcome some practical problems: the population of the community-dwelling people is very heterogeneous, ranging from vulnerable older people to very vital and active older persons. There is uncertainty in the prescribing behavior of the GPs: 49.5% always performs blood tests to assess serum 25(OH)D before starting supplementation and 36.1% find the supplementation in the people aged ≥70 years not useful.

A scoping review of the existing literature concerning the clinical management of low vitamin D in community-dwelling people concluded that "broad variability in physicians' knowledge, attitude, and behaviors related to vitamin D testing are reflective of the landscape of uncertainty in research findings, recommendations, and guidelines."[7] A survey conducted in 2015 among general practitioners in Belgium showed uncertainty in vitamin D–prescribing behaviors even in the population of nursing home residents.[8]

Worldwide, there is a lack of consensus between the guidelines for vitamin D supplementation in community-dwelling older people, for example, prescribing vitamin D titrated to the degree of deficiency, or standard supplementation in this group at risk. The present literature concerning the topic of vitamin D supplementation is ambiguous with regard to guidance.

An umbrella review stated that there is no convincing data from clinical trials for the benefits of vitamin D supplementation overall.[9] However, another umbrella review concluded that most randomized controlled trials are carried out in populations that are not vitamin D deficient.[10] Further, there is an increasing body of evidence from observational and clinical studies that support the presence of thresholds in vitamin D status below which health risks increase, and vitamin D supplementation has beneficial effects.[11]

Future studies may elucidate specific groups of community-dwelling older people who are more likely to benefit from vitamin D supplementation, and this might reduce the apparent uncertainty of GPs regarding their vitamin D supplementation strategies. While awaiting the results of well-designed randomized clinical trials, GPs should consider vitamin D supplementation in persons aged ≥70 years (patients with osteoporosis, malabsorption, hyperthyroidism, chronic kidney disease, or liver failure) and

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Table 1
Results From Physician Surveys Concerning Vitamin D–Prescribing Behavior in People Aged ≥70 Years

	ECPs		GPs	
	2010 (n = 648)	2017 (n = 414)	2010 (n = 42)	2017 (n = 310)
	n (%)	n (%)	n (%)	n (%)
Is familiar with advice of the Dutch Health Council	419 (64.7)	326 (78.7)	28 (66.7)	220 (71.0)
Nursing home has policy regarding routine vitamin D supplementation	344 (53.1)	395 (95.4)	N/A	N/A
Usually forgets to think about vitamin D supplementation	—	—	22 (52.4)	99 (31.8)
Finds vitamin D supplementation useful	487 (75.2)	337 (81.4)	—	198 (63.9)
Prescribes vitamin D systematically (consistent with Dutch guidelines) to people aged ≥70 y	323 (49.8)	390 (94.2)	—	105 (34.0)
Prescribes vitamin D to people aged ≥70 y				
20 μg (800 IE) per day	294 (45.4)	350 (84.5)	21 (52.5)	272 (87.7)
10 μg (400 IE) per day	303 (46.7)	7 (1.7)	13 (31.0)	16 (5.1)
Other dose	52 (7.9)	57 (14.0)	2 (4.8)	22 (7.4)
Does routine laboratory testing for serum 25(OH)D				
Before supplementation begins	38 (5.9)	52 (12.6)	—	155 (49.5)
Monitoring with special conditions (medication, obesity, malabsorption)	—	41 (9.9)	—	56 (18.4)
Monitoring serum 25(OH)D after supplementation	—	4 (1.0)	—	37 (11.7)
No routine testing	—	317 (76.5)	—	166 (20.4)

N/A, not applicable; —, not asked.

always prescribe vitamin D supplementation for their most vulnerable patients.[12]

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