

Guillermou

Great article on the relationship between vitamin D and aging. Numerous studies have shown a direct relationship between all-cause mortality and vitamin D deficiency. High levels of vitamin D are associated with a lower mortality rate among patients with T2DM. Patients with vitamin D levels less than 30 nmol/L had significantly higher all-cause mortality. Vitamin D deficiency was more severe in patients with neoplasia: 17 ng/mL, versus 21.3% ng/mL ($p = 0.0005$). Vitamin D decreases inflammatory markers (C-reactive protein, interleukin 10) and oxidative stress markers (free radicals, nitric oxide), thus influencing atherosclerosis.

The role of calcitriol in reducing renin synthesis was demonstrated, as well as its important role in the proliferation process of cardiomyocytes and vascular muscle cells. myocardial infarction is 2.4 times higher in those with a vitamin D level less than 15 ng/mL compared to those with values greater than 30 ng/mL Vitamin D can modulate the expression of neurotrophic factors, such as nerve growth factor and glial cell line-derived neurotrophic factor, which are essential for nerve survival and regeneration. Additionally, vitamin D can inhibit the production of pro-inflammatory cytokines, such as tumor necrosis factor-alpha and interleukin-6, which are involved in nerve inflammation and degeneration [56].

Additionally, vitamin D may improve the function of calcium channels, which are important for nerve conduction and neurotransmission. Regarding diabetic macroangiopathy, vitamin D participates in the reduction of chronic inflammation and oxidative stress, which are important factors in endothelial dysfunction, atherosclerosis and the modulation of angiogenesis, which is altered in diabetes. Consequently, the healing of vascular lesions is impaired.

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In recent years, researchers have shown that vitamin D and its active metabolites are useful in preventing or treating various forms of cancer through many mechanisms, such as regulation of gene transcription, tumor cell apoptosis, repair of DNA, antioxidant protection and immunomodulation.]. Vitamin D plays a crucial role in the prevention and treatment of dementia. One of the mechanisms that confirms this hypothesis is that it positively regulates the production of several neurotrophic factors, which promote the survival, development and function of neurons. Furthermore, in animal studies, chronic vitamin D supplementation appears to protect against the neurotoxicity of glutamate exposure.

Vitamin D deficiency is associated with several comorbidities that reduce quality of life. It is useful for this blood test to become routine in practice in those at risk of overweight, obesity, hypertension, dyslipidemia, non-alcoholic steatohepatitis and metabolic syndrome. Vitamin D is the sunshine vitamin. During exposure to sunlight, 7-dehydrocholesterol in the skin absorbs ultraviolet B (UVB) radiation and converts it to previtamin D3. Previtamin D3, being thermodynamically unstable, isomerizes within a few hours to form vitamin D3. Prolonged exposure to UVB rays leads to transformation into tachysterol or lumisterol, which can be further metabolized into biologically active hydroxyforms.

Exposure to sunlight also provides other health-related benefits that are independent of vitamin D production. These include the activation of central neuroendocrine mediators, including the activation of the hypothalamic-pituitary-adrenal (HPA) axis or its elements and the production of nitric oxide. The latter would lead to a reduction in blood pressure. www.mdpi.com/.../1390 (2024).--
www.biorxiv.org/.../2024.02.13.580162v1.abstract (2024).--
www.sciencedirect.com/science/article/abs/pii/B9780323913867000064 (2024).--

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robertgipsoncomcast.net

The italian article (Ruggiero 2024) is a superlative review. Great find, and summary, by Mercola. Rhonda Patrick has been all over vit D3's anti-aging effects for some time.

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goodbody2

Interestingly, a doctor recently told me that I have high levels of vitamin D. "We'll have to find out what's causing that." What?? I certainly don't OD on the stuff.

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RonaldHL

I understand epigenetics switching on and off gene expression due to environmental, nutritional and lifestyle factors. I'm investigating other factors to include the power of will with anecdotal evidence that it is possible. Among environmental factors is sun exposure.

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gib8468

Guillermou, almost everyone agrees that the most healthful way to get vitamin D is from exposure to the sun. The article notes that supplementation makes sense for those who can't get sufficient sun exposure and don't have access to red light or infrared saunas. Much has been written, esp. recently, about vitamin D supplements being toxic. Among other things, they point out that synthetic vitamin D a/k/a cholecalciferol is rat poison and no amount is safe. That seems to be confirmed by MSDS filings by vitamin D manufacturers that warn against ingestion (of their own vitamin D). Some say that those who point to the warnings contained in the MSDS filings don't understand the purpose of the MSDS filings. In any case, do you have a view on this issue? (Similar things can be found regarding other supplements -- i.e., many are synthetic creations and sometimes (often?) are comprised of or manufactured from toxic waste.)

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grulla

" Among other things, they point out that synthetic vitamin D a/k/a cholecalciferol is rat poison and no amount is safe." www.healthline.com/.../vitamin-d2-vs-d3

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billstri

Vitamin-D3 supplements are very, very expensive to the health industry that depends on sickness and the treatment of sickness to get very rich. A good portion of the cost of medical care in the US is due to lack of sufficient blood levels of vitamin-D. GrassrootsHealth has many articles on current worldwide scientific studies of vitamin-D. Covid vaccines would never have been invented if everyone had a sufficient vitamin-D level in their blood. The main nutrient that comes from toxic waste that I know about is the Fluoride that governments put in our drinking water.

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RonaldHL

Folic acid fits with possibility harmful supplements. For those with MTHFR, many unknowingly or to various degrees, folic acid can take up receptor sites preventing real folate forms or methyl folate to be utilized. The cheaper vitamin supplements have the folic acid version and that alone is more than sufficient reason to reject it even if all the rest of the formulation is good. Same with B-12. I reject all that doesn't use methyl B-12.

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There are several forms of vitamin D marketed by the pharmaceutical industry: natural vitamin in the form of cholecalciferol, hydroxylated derivatives in position 1 (calcitriol, alfacalcidol and paricalcitol) and derivatives in position 25 (calcifediol). They come as vitamin D supplements alone or in association with calcium or other vitamins and minerals. In 2019, an evaluation by the Pompeu Fabra University together with the Cochrane Ibero-America Center determined that regular intake of synthetic vitamin D does not have a positive impact on the prevention of bone breaks in the general population. The evaluation reviewed 81 studies in which more than 50,000 people from different countries had participated in total and according to its director, Dr. Alonso Coello, researcher at the Cochrane Ibero-American Center, "the design and execution of the reviewed studies, as well as the consistency of conclusions, makes it unlikely that evaluations that indicate otherwise can be published in the future." The study only granted supplements effectiveness in the case of very elderly people who hardly exposed themselves to the sun, since it is true that they provide certain, very limited levels of vitamin D.

How then are the Scandinavian levels explained? To understand them, we must distinguish between two types of vitamin D, actually three: -----1) The origin of vitamin D2 or ergocalciferol is fundamentally plant-based.

It is incorporated into the diet with the consumption of plant foods that contain it. Mushrooms, in addition to being interesting food supplements due to their multiple applications, are also a good source of precursors of this vitamin. The most notable mushrooms in this sense are Shiitake, Maitake, Pleurotus ostreatus. Sun mushroom and Cordyceps sinensis have a relative abundance of vitamins B, C and E, as well as precursors of vitamin D. Vitamin D2: it is the most commercialized to enrich milk and other foods.

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A scientific meta-analysis study found that the consumption of mushrooms exposed to UV increases plasma levels of vitamin D in subjects with low basal levels. Therefore, despite the lower bioavailability of vitamin D₂, the consumption of mushrooms or mushrooms in general, exposed to UV light is an option as a source of vitamin D. -----2) Vitamin D₃: also called cholecalciferol, because it is produced in the skin when a 7-dehydrocholesterol molecule is broken down by the intervention of sunlight. It is therefore what we could call "natural" and the one that fully works. In supplements it is mainly extracted from oily fish and organ meats.

Although it is also what we find in unenriched whole milk, egg yolk and animal fats. -----3) Active D₃: it is called calcitriol. It is administered to people with parathyroid or kidney problems. It can be toxic, so it is given only with a doctor's prescription. Regardless of whether the vitamin is synthesized in the skin or obtained from food, to exert its metabolic actions it requires two hydroxylations. The first hydroxylation is carried out at position 25 of the molecule, by 25-hydroxylase in the liver. The 25 (OH) vitamin D formed passes into the blood, and bound to the transport protein it reaches the kidney.

In the proximal renal tubule it is hydroxylated in position 1, by 1-hydroxylase, giving rise to the active vitamin: 1,25 (OH)₂ vitamin D or calcitriol. Also in the kidney, 24,25 (OH)₂ vitamin D is produced by the action of 24-hydroxylase. This vitamin is much less active. Its biological role is not entirely well known. Once its action has been exerted, vitamin D is inactivated in the liver through gluco and sulfoconjugation. Almost all of it is eliminated through the bile route, undergoing an enterohepatic cycle.

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VITAMIN D3 VERSUS D2. Dr. Mercola. -----1)Contrary to popular belief, vitamin D2, derived from plants, and D3, from animal products, do not have equal nutritional value, and deficiency is gaining ground, so study authors are asking governments to consider updating current guidelines -----2)Researchers found vitamin D3 to be twice as effective in raising levels in the body in comparison to D2 -----3)More than 1 in 5 people in the U.K. have low levels of vitamin D; as an essential nutrient, it's not a vitamin your body produces, so it must be attained from an outside source: via sunlight, food or supplementation -----4)Told by officials that D2 and D3 were basically the same, retail outlets led to believe one was just as viable as the other added vitamin D2 to their products, which did nothing to help people increase their levels takecontrol.substack.com/.../vitamin-d3-versus-d2 (2024).-- --

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