

2024 International Virtual Vitamin D Forum Unlocks the Power of Vitamin D

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February 15, 2025

STORY AT-A-GLANCE

- › Global vitamin D deficiency affects all ages and ethnicities, highlighting the need for increased awareness and proactive measures to address this widespread issue
- › Adequate vitamin D is essential for overall well-being, playing a role in preventing a spectrum of diseases, from bone disorders to chronic illnesses
- › While generally safe, vitamin D supplementation should be personalized based on individual needs and monitored to ensure optimal levels and avoid issues
- › Vitamin D is involved in immune function, regulating both underactivity and overactivity, and is important for fighting infections and preventing autoimmune diseases
- › Safe sun exposure is the ideal way to boost vitamin D, but careful management is key, especially for those consuming seed oils

In the world of health and wellness, vitamin D shines brightly, often referred to as the "sunshine vitamin." This essential nutrient plays a role in numerous bodily functions, impacting everything from bone health to your immune system. The 2024 International Virtual Vitamin D Forum & Expert Panel Discussion shed light on the latest research and clinical applications of vitamin D, emphasizing its importance in maintaining optimal health and preventing disease.¹

Vitamin D Deficiency Is a Global Problem

Despite its importance, vitamin D deficiency is a global concern. Dr. Michael Holick, a leading vitamin D researcher, highlighted the prevalence of this issue, emphasizing the need for increased awareness and action. Even in sunny regions, a significant portion of the population has insufficient vitamin D levels. This deficiency leads to various health problems, including:

- **Bone diseases** – Vitamin D promotes calcium absorption, which is essential for strong bones. Deficiency leads to rickets in children and osteomalacia in adults. Holick presented research showing that even seemingly healthy individuals sometimes have evidence of osteomalacia, highlighting the subtle but significant impact of vitamin D deficiency on bone health.
- **Immune system weakness** – Vitamin D plays a role in immune function. Deficiency increases your risk of infections, including respiratory illnesses. Holick presented data from studies showing that vitamin D deficiency is associated with an **increased risk of COVID-19** and experiencing severe outcomes. He also highlighted the role of vitamin D in supporting both innate and adaptive immunity, emphasizing its importance in overall immune health.
- **Chronic diseases** – Studies have linked vitamin D deficiency to an increased risk of chronic diseases such as **heart disease**, Type 2 diabetes and certain types of cancer. Holick presented data from various studies showing a correlation between low vitamin D levels and an increased risk of these conditions.

Holick also addressed The Endocrine Society's updated guidelines on vitamin D, which have sparked debate among experts. The guidelines recommend a daily intake of 600 IU for adults under 70 and 800 IU for those over 70. However, many experts argue that these recommendations are too low to achieve optimal vitamin D levels, especially for individuals with darker skin tones or those with limited sun exposure.

Dr. Sunil Wimalawansa, a clinician-scientist with over four decades of experience, added to the discussion by highlighting the concept of vitamin D as a "threshold nutrient." He explained that your body's response to vitamin D changes depending on the existing levels.

At lower levels, even small increases in vitamin D intake have significant benefits. However, as levels approach sufficiency, the benefits diminish. This concept underscores the importance of individualizing vitamin D supplementation based on baseline levels and health goals.

Many Women Are Deficient in Vitamin D During Pregnancy

Vitamin D plays an important role during pregnancy, supporting both maternal and fetal health. Studies have shown that adequate **vitamin D levels during pregnancy** reduce the risk of preeclampsia, preterm birth and other complications. Holick emphasized the importance of vitamin D supplementation for pregnant women, suggesting that higher doses are often necessary to achieve optimal levels.

Holick presented data from his research showing that a significant percentage of pregnant women, even those taking prenatal vitamins, are vitamin D deficient. He highlighted the consequences of this deficiency, including an increased risk of C-sections and premature births. He also discussed research indicating that higher vitamin D levels during pregnancy are associated with a reduced risk of dental caries in infants.

Vitamin D Linked to Reduced Cancer Risk and Brain Benefits

Dr. William Grant, a renowned vitamin D researcher, presented evidence linking vitamin D to a **reduced risk of cancer**. Studies have shown that individuals with higher vitamin D levels have a lower risk of developing various types of cancer, including colon, breast and prostate cancer. The findings suggest that vitamin D plays a significant role in cancer prevention.

Grant discussed the pioneering work of Cedric and Frank Garland, who first identified the link between UVB exposure and reduced cancer risk. He presented data from ecological studies showing a correlation between higher solar UVB levels and lower

cancer mortality rates. Grant also highlighted the importance of considering vitamin D's impact on both cancer incidence and mortality.

While the effect on incidence may be modest due to the influence of other risk factors, vitamin D has a stronger effect on mortality by reducing angiogenesis (formation of new blood vessels) and metastasis (spread of cancer).

Emerging research indicates that vitamin D also plays a role in brain health. Studies have linked higher vitamin D levels to a reduced risk of cognitive decline, dementia and Alzheimer's disease. While the exact mechanisms are still being investigated, the findings suggest that maintaining adequate vitamin D levels helps protect against age-related cognitive decline.

Grant highlighted the importance of considering the follow-up time in these studies, as longer follow-up periods may dilute the observed benefits. He suggested that vitamin D may have a more significant impact on brain health over shorter periods. Grant also discussed research indicating that vitamin D supplementation leads to improvements in brain health within months.

Addressing Concerns About Vitamin D Safety and Toxicity

Vitamin D expert Wimalawansa addressed concerns about vitamin D safety and toxicity. He emphasized that vitamin D is generally safe when taken in recommended doses. However, excessive intake leads to hypercalcemia, a condition characterized by high calcium levels in your blood.

Wimalawansa provided guidelines for safe vitamin D supplementation, emphasizing the importance of individualizing doses based on factors such as body weight, sun exposure and health conditions.

Wimalawansa clarified that vitamin D toxicity is exceedingly rare and usually occurs due to accidental ingestion of extremely high doses. He emphasized that diagnosing vitamin D toxicity requires more than just a high serum vitamin D level. It also requires clinical

signs and symptoms of hypercalcemia, such as fatigue, muscle weakness, nausea and vomiting.

Wimalawansa further discussed contraindications for vitamin D supplementation, including individuals with hypersensitivity to sunlight, certain genetic disorders and granulomatous diseases. He also addressed the question of whether additional calcium supplementation is necessary when taking vitamin D. He explained that when vitamin D levels are adequate, your body's ability to absorb calcium from your diet increases, making calcium supplementation typically unnecessary.

Your Immune System and Vitamin D – A Powerful Partnership

Dr. Aileen Burford-Mason, an immunologist, nutritionist and independent research analyst, highlighted the role of vitamin D in immune function. She explained how vitamin D helps regulate your immune system, preventing both underactivity and overactivity. Adequate vitamin D levels are essential for fighting infections and preventing autoimmune diseases.

Burford-Mason emphasized the importance of considering other nutrients, such as magnesium, which work in conjunction with vitamin D to support immune health. She discussed the two main components of your immune system: innate immunity and adaptive immunity and explained how vitamin D supports both branches of the immune system, helping your body fight off infections and maintain immune balance.

She highlighted the importance of vitamin D in regulating the inflammatory response, preventing excessive inflammation that leads to tissue damage and autoimmune diseases.

Burford-Mason also presented data from studies showing the benefits of vitamin D in preventing respiratory tract infections, including influenza and COVID-19, and discussed the role of vitamin D in managing [autoimmune diseases](#), emphasizing the need for individualized treatment approaches and considering other nutrients that support immune function.

Clinical Applications of Vitamin D and Vitamin D Resistance

Dr. Richard Cheng, a physician specializing in antiaging and integrative cancer therapy, shared real-world examples of how vitamin D improves health and treats various conditions. He discussed the use of vitamin D in autoimmune diseases, metabolic disorders and even for antiaging purposes. Cheng emphasized the importance of a holistic approach, considering lifestyle factors such as diet, exercise and stress management in conjunction with vitamin D supplementation.

Cheng shared his personal experience using vitamin D in his practice, highlighting its safety and effectiveness in treating various conditions. He discussed his success in using high-dose vitamin D to reverse autoimmune diseases and improve metabolic health. He also emphasized the importance of monitoring vitamin D levels and individualizing treatment plans based on patient needs.

Cheng discussed the concept of vitamin D resistance, in which some individuals require higher doses to achieve optimal levels. Various factors influence vitamin D's effectiveness, and he stressed the importance of addressing these factors through lifestyle modifications and targeted nutrient supplementation to optimize vitamin D's benefits.

Factors contributing to vitamin D resistance include genetic variations, obesity and certain medications. Monitoring vitamin D levels and adjusting doses accordingly is therefore necessary to ensure effectiveness.

The Power of the Sunshine Vitamin

The 2024 International Virtual Vitamin D Forum provided valuable insights into the latest research and clinical applications of vitamin D. The key takeaways include:

- Vitamin D deficiency is a global concern, impacting individuals of all ages and ethnicities.

- Maintaining adequate vitamin D levels is necessary for optimal health, preventing a wide range of diseases from bone disorders to chronic illnesses.
- Vitamin D supplementation is generally safe when taken in recommended doses, but individual needs vary.
- Monitoring vitamin D levels is essential, especially for individuals with specific health conditions or those taking higher doses.
- A holistic approach, combining vitamin D supplementation when necessary with lifestyle factors such as diet, exercise and sun exposure, is key to maximizing its benefits.

Embracing Vitamin D for Better Health

The ideal way to optimize your vitamin D levels is via safe sun exposure. Harnessing the sun's power for vitamin D production offers benefits far exceeding simple vitamin synthesis. Healthy sun exposure, reflected in robust vitamin D levels, is linked to numerous health advantages, including reduced cancer risk and enhanced longevity.

However, while sunlight is necessary for vitamin D and overall well-being, it demands careful management. The key is finding a balance between protection and reaping its rewards. If your diet includes significant amounts of seed oils, extra caution is warranted. These oils, rich in **linoleic acid** (LA), an omega-6 fatty acid, readily oxidize under UV light. This interaction on your skin initiates a cascade of breakdown products, leading to inflammation and DNA damage.

Therefore, if you consume seed oils, limit sun exposure to the gentler morning or late afternoon hours for four to six months while eliminating these oils from your diet. Individual characteristics also influence sun sensitivity, with skin color, determined by melanin, playing a pivotal role.

Melanin acts as a natural UV shield. Consequently, individuals with darker skin require more sun exposure to generate comparable vitamin D levels as those with lighter skin. This biological difference underscores the need for personalized sun strategies.

Body composition, particularly body fat percentage, is another important factor. Fat tissue stores fat-soluble substances, including oxidized seed oils. Individuals with higher body fat experience prolonged risk even after dietary changes due to these stored oils. To assess your sun tolerance, especially if you consume seed oils, monitor your skin for redness or burning – a simple “sunburn test” that accounts for the season, your skin type and other factors.

The absence of pinkness suggests safe sun exposure. Avoiding sunburn, a clear indicator of overexposure and skin damage, is the goal. Reducing your body's LA stores significantly reduces the likelihood of sunburn and skin cancer. However, vigilance remains essential, particularly during the transition. As you lower seed oil intake, avoid peak sunlight hours – typically an hour before and after solar noon.

In most U.S. regions, this translates to avoiding direct sunlight from 10 a.m. to 4 p.m. Gradually, as your body clears accumulated seed oils, safely increase sun exposure. Remember, individual responses vary, so observe your body's reactions during this process. If redness appears, seek shade immediately.

Strategies for Enhanced Sun Protection

If sun exposure is unavoidable before your body has fully cleared seed oils, consider protective measures. [Astaxanthin](#), an antioxidant from marine sources, is a valuable ally. A daily intake of 12 milligrams bolsters skin's resistance to sun damage by neutralizing free radicals and reducing inflammation, providing added UV protection. Niacinamide cream (vitamin B3) is another beneficial tool.

Topical application has demonstrated protection against UV-induced DNA damage and strengthens your skin barrier, enhancing resilience to sun stressors. Many have reported significant improvements using niacinamide cream before sun exposure.

Another strategy involves taking a baby aspirin before sun exposure. [Aspirin](#) inhibits the conversion of LA in your skin into harmful oxidized linoleic acid metabolites (OXLAMS),

key contributors to skin and other cancers. By hindering OXLAM formation, aspirin provides an additional layer of defense against sun damage.

Overall, vitamin D is an essential nutrient that plays a role in maintaining optimal health and preventing disease. By embracing the sunshine vitamin, through a combination of sensible sun exposure and appropriate supplementation, you take a proactive step toward a healthier and more vibrant life.

Sources and References

- ¹ Youtube, VitaminDaction, 2024 International Virtual Vitamin D Forum: A response to misleading guidelines, October 4, 2024