

20 May 2021 | **Opinion**

Vitamin D And COVID-19: Could 800IU A Day Be 'Goldilocks' Compromise?

by **David Ridley**

Should vitamin D supplementation be recommended by European governments to prevent COVID-19 infection? If so, at what strength? These are key questions that continue to fuel debate over this trending vitamin. Looking at the latest interventions from government agencies and scientists in the UK and Germany, it seems a consensus may be achievable for 800IU vitamin D via daily supplementation for anyone who cannot get enough from the sun or from their diet.

Can vitamin D supplementation help prevent coronavirus infection? This is the million-dollar question that has, as yet, not been definitively answered, and refuses to go away.

Looking at the latest interventions from Germany's Federal Institute for Risk Assessment (BfR) and UK vitamin D experts, it seems that a compromise position may be achievable: Dietary supplements providing 20mcg/800IU vitamin D a day should be recommended in populations where adequate intake is not possible.

Providing people with more than the low dose of 10mcg/400IU currently recommended by the UK government, for example, such a policy would potentially help protect them from infection by respiratory infections like COVID-19, as suggested by mounting clinical evidence.

German Middle Way

This is essentially the position of Germany's Federal Institute for Risk Assessment (BfR), which in a recent communication stated that, "if you want to supplement vitamin D, you can use supplements with a daily dose of up to 20mcg/800IU."

At this level, "health impairments are not to be expected," the BfR advises. Whereas at higher strengths, for example over the European Food Safety Authority's safe maximum level of 100mcg

vitamin D (4,000IU) per day for adults and children 11 years old and over, 50mcg (2,000IU) per day for children aged 10 and below, health problems may arise.

“This total tolerable intake relates to intake from all food sources, including vitamin D supplements and fortified foods,” the BfR notes. “It does not represent an intake recommendation.”

“With a regular daily intake of vitamin D above the upper limit, there is a risk of adverse effects such as the formation of kidney stones or calcification of the kidneys,” the Institute continues. “Given the usual eating habits, this is currently only possible by taking high-dose vitamin D supplements.”

“Dietary supplements are not intended to cure or alleviate a disease,” it adds. “Dietary supplements are not drugs, but foods that can complement a normal diet. They must be safe and must not have any adverse health effects.”

Media Controversy

Controversially, the Institute, which reports directly to the Federal Ministry of Food and Agriculture (BMEL), suggests that there is evidence that inadequate vitamin D levels are associated with an increased risk of acute respiratory infections.

This admission was pounced on by the German mainstream media, especially the Tagesschau.de – a daily news webservice produced by public-service television network ARD – which took this to mean that the BfR was backtracking on earlier claims that there was no evidence to show a connection.

However, after the BfR clarified its position – which, to be fair, was pretty clear in pointing out in the communication that the data establishing a connection between supplementation and the prevention of COVID is still not established – Tagesschau.de removed the article in question and published another one with the title “No U-turn By The BfR.”

“Various media, including Tagesschau.de, had reported that the Federal Institute for Risk Assessment had changed its opinion with regard to vitamin D for COVID-19 prevention and treatment,” the webservice noted. “Now the authority is making it clear: This is not the case.”

No Additional Benefit

The BfR’s general point in its communication, which it shares with most, if not all, competent food authorities and their agencies, is that supplementation in general is only needed if people are not getting their essential nutrients, vitamins, and minerals from a healthy diet.

It is, indeed, a lack of vitamin D that puts people at risk of a variety of health conditions,

including osteoporosis, rickets and, because of a weaker immunity, respiratory infections like COVID-19.

What the BfR is warning against, specifically, is the idea that taking vitamin D on top of a normal diet, especially if vitamin D intake is sufficient – which can be achieved, the Institute points out, by regularly spending time outside and by eating oily fish, like herring or salmon – conveys additional health effects.

Taking too much vitamin D, the BfR insists, can be dangerous. “Case reports have shown that the uncontrolled ingestion of vitamin D supplements on their own in very high doses can have serious health consequences, such acute kidney failure.”

800IU Not Strong Enough

For some, however, this is not enough. In the UK, for example – where the government giving people living in England at high risk of severe COVID-19 free vitamin D supplements recommending everyone to take 400IU of vitamin D a day during winter – experts are calling for much higher doses.

“A more desirable level of intake of vitamin D taking the latest evidence into account would be 2,000 IU daily to reduce the risk of acute respiratory tract infections (ARTIs), recommend the authors of a recently published narrative mini-review, “Respiratory Tract Infections and Antibiotic Resistance: A Protective Role for Vitamin D?”

Given the growing evidence that vitamin D supplementation reduces the risk of acquiring RTIs, as well as their duration and severity, it seems timely given the coronavirus pandemic that UK government advice should be “updated to encompass respiratory health with the required supplemental dose being re-evaluated,” they conclude.

Here Emma Derbyshire, director of consultancy firm Nutritional Insight and Philip Calder, professor of Nutritional Immunology at the University of Southampton, echo the views of many scientists working in the field.

UK Says Still No Evidence Vitamin D Prevents Or Treats COVID-19

By [David Ridley](#)

21 Dec 2020

Yet another rapid review by the UK's NICE finds insufficient evidence to support taking vitamin D to prevent or treat COVID-19. Nevertheless, the UK government is handing out free vitamin D supplements to clinically vulnerable groups in England from January.

[Read the full article here](#)

University of Birmingham professor Martin Hewison, for example, told HBW Insight earlier this year that the effect of following the UK government's recommendations would be "negligible," because 400IU is "actually the placebo dose in many clinical trials."

Hewison was one of 100 scientists and healthcare professionals across the world to sign an open letter under the #VitaminDforAll banner calling for increased vitamin D use to combat COVID-19, recommending an adult intake of between 2000-4000IU daily in the absence of testing.

Or Perhaps It Is?

In a more recent research article, however, Hewison strikes a more cautious note as to how much vitamin D people should be taking in the form of daily supplements.

The current UK Scientific Advisory Committee for Nutrition threshold for vitamin D sufficiency of 25nmol/L is "set too low and is not supported by evidence," Hewison and colleagues argue in the Royal College of Physicians' Clinical Medicine Journal.

"A higher threshold of 50 nmol/L is supported by the evidence and is safely achievable by supplementation with at least 800IU per day," the authors continue.

"Since vitamin D is widely sold in 1,000IU capsules, and it is universally agreed that doses up to 4,000IU per day are safe, then a recommendation of 800–1,000IU per day for all adults would be safe and sufficient and should be urgently promoted," they conclude.

HBW Insight also spoke to a representative from Swedish supplements specialist New Nordic, who said that "when taken regularly and correctly according to instructions, 400IU is a suitable strength."

While it has been "well documented" during the pandemic that increasing intake of vitamin D supports immune health and has shown favorable effects on viral infections, results are variable and the effect on COVID infection differ and are somewhat unknown," the spokesperson pointed out.

Clear As Mud?

UK Needs Higher Daily Vitamin D Supplement Doses To Achieve Immunity Effects

By [David Ridley](#)

11 Jan 2021

Current UK government guidelines on vitamin D supplementation (400IU or 10mcg vitamin D a day) are too low to achieve immunity boosting effects, says UK expert and University of Birmingham scientist Martin Hewison.

[Read the full article here](#)

Like the BfR, New Nordic noted that the positive effects of vitamin D supplementation are most apparent when there is a deficiency.

“Low vitamin D levels have been associated with an increase in inflammatory conditions and significantly increase the risk of respiratory infections,” the company representative explained. “Taking a vitamin D supplement could offer an easy option to increase levels and decrease the impact of the pandemic.”

For now, perhaps all we can conclude is that supplements should be recommended in populations where adequate vitamin D intake is not possible, for example, because of COVID-related lockdowns, or in countries where there is less sunlight, especially for people with darker skin pigmentation.

BfR’s recommendation of 800IU a day is perhaps also a compromise between the too-low level of the UK government and the very high levels recommended by Derbyshire and Calder and the #VitaminDforAll lobby.

What seems certain is that the debate will rage on as long as the coronavirus pandemic stays with us, and probably for a long time after that.

Scientific publications mentioned in the article:

Derbyshire, EJ and Calder, PC (2021) Respiratory Tract Infections and Antibiotic Resistance: A Protective Role for Vitamin D? Front. Nutr. 8:652469. doi: 10.3389/fnut.2021.652469

Griffin G, Hewison, M, Hopkin, J, Kenny, RA, Quinton, R, Rhodes, J, Subramanian, S, Thickett D (2021) Preventing Vitamin D Deficiency During The COVID-19 Pandemic: UK Definitions Of Vitamin D Sufficiency And Recommended Supplement Dose Are Set Too Low. Clinical Medicine Jan 2021, 21 (1) e48-e51; DOI: 10.7861/clinmed.2020-0858