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Nutrition Risks for COVID-19

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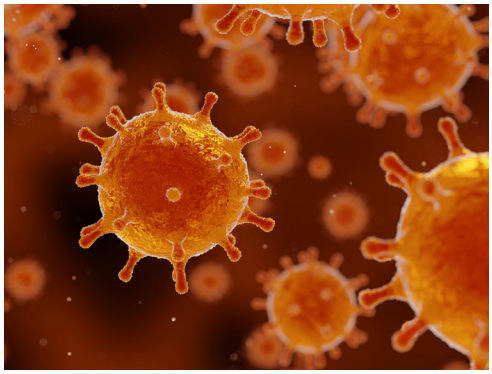
Joining the UNC Nutrition Research Institute in 2010, Dr. Martin Kohlmeier serves as faculty and primary investigator in the NRI Human Research Core and Nutrigenetics Laboratory. He focuses on laboratory diagnostics and nutritional genetics. With more than thirty years of experience in nutrition research, he has developed novel biochemical methods for the assessment of dietary intake and nutrient adequacy. Dr. Kohlmeier's research explores how to help individuals safely navigate daily food choices and how those choices might affect cancer risk. Dedicated to helping the public benefit from recent advancements in genetics and nutrition, Dr. Kohlmeier uses this new technology to read the body's DNA blueprint down to very fine details. His goal is to translate this data into practical directions for people's health.

Currently, he is developing a distance training course for physicians to prepare them to use nutrigenomics in their clinical practices. Notably, Dr. Kohlmeier authored Nutrient Metabolism, a textbook describing how the body handles about one hundred important compounds in food, from alcohol to zinc. The textbook outlines the major food sources of these compounds, and additional related information, such as our chemical senses, appetite and thirst, and the nutrient path from food to the using body part. The strength of the book is that a rich collection of information on each of the food ingredients is easily accessible in one place, making it a powerful resource for researchers, health professionals, and anyone needing nutrition facts at their fingertips. Dr. Kohlmeier earned doctorates in medicine, biochemistry and clinical biochemistry from Heidelberg University and Freie Universität, Berlin, and is the lead author of numerous online nutrition courses for healthcare professionals. In addition to his role at the UNC NRI, Dr. Kohlmeier maintains his appointment as a Research Professor with the Department of Nutrition, UNC-Chapel Hill, School of Medicine and School of Public Health and is also a Visiting Fellow at Wolfson College, Cambridge University, England. He is editor-in-chief of BMJ Nutrition, Prevention & Health, an open-access journal published by BMJ in association with the NNEdPro Global Centre for Nutrition and Health in Cambridge, England.

Program Synopsis



The SARS-CoV-2 virus is highly infectious, capable of causing COVID-19 disease in almost all non-immune people upon exposure. The spread of the virus is prevented most effectively with hand washing, wearing of masks and observing social distance. It is likely that vitamin D deficiency and possibly also a lack of some other essential nutrients makes people more vulnerable to getting infected.

Vitamin D is an unusual nutrient because most of it comes from production in skin exposed to ultraviolet light with short wave length (UV-B, 280-315 nm) from sun. The further north people live, the longer they have to go during winter and spring without being able to make vitamin D in their skin. Sun avoidance, obesity and dark skin make it harder to get enough vitamin D because the amounts available from food alone are usually much too small. The "vitamin D winter" during which there is not enough sun to support vitamin D production in skin lasts several months in the northern half of the US, and only a few weeks in the southernmost regions. Supplementation with vitamin D tablets, capsules or droplets is highly effective. Most people do well with the recommended minimal amounts of 600-800 IU per day.

Once people have become infected, the progression of the disease depends strongly on who they are and what their nutritional status is. The infection can cause serious illness and even death in all age groups. The risks are greatest for older people, people of color, and those with prior hypertension, obesity, and diabetes. Infected patients often have diminished nutrient status. Optimal nutrition is likely to improve outcomes, particularly with adequate supplies of zinc and vitamins A, E, and D. Supplementation with vitamin D has been found in a randomized controlled trial to greatly decrease the need for intensive care and for breathing assistance, and can often prevent death.

Program Insights

- Mask, hand washing and social distancing are still first choice.
- Adequate vitamin D status is helpful, but more is not better.
- Good general health and nutrition status are the best bet to get through COVID-19 without too much damage.
- Everybody should consider using a moderately dosed (600-1000 IU) daily vitamin D supplement.

Suggested readings:

Kohlmeier M. *Avoidance of vitamin D deficiency to slow the COVID-19 pandemic* **https://nutrition.bmj.com/content/bmjnph/3/1/67.full.pdf**

Kohlmeier M. *What I learned about nutrition risks for COVID-19* **https://blogs.bmj.com/covid-19/2020/07/03/what-i-learned-about-nutrition-risks-for-covid-19/**

Notes