

# Vitamin deficiency in later life

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One in two persons aged 65 and above has suboptimal blood levels of vitamin D. This is the conclusion of an investigation conducted by researchers at the Helmholtz Zentrum München, as part of the population-based KORA-Age study in the region of Augsburg. Moreover, as the authors of the study report in the peer-reviewed journal *Nutrients*, one in four older adults has suboptimal vitamin B12 levels.

For more than 30 years, the KORA Cooperative Health Research platform has been examining the health of thousands of people living in the greater Augsburg area in Southern Germany. The aim of the study is to understand the impact of environmental factors, lifestyle factors and genes on health. "In this context, we were also interested in examining the [micronutrient](#) status of older adults, including vitamins," explains study leader Dr. Barbara Thorand of the Institute of Epidemiology (EPI), Helmholtz Zentrum München. "So far, in Germany, research data on this topic has been relatively thin on the ground."

Overall, the scientists examined blood samples of 1,079 older adults, aged 65 to 93 years from the KORA study. Their analysis focused on levels of four micronutrients: vitamin D, folate, vitamin B12 and iron.

"The results are very clear," explains first author Romy Conzade. "Fifty-two percent of the examined older adults had vitamin D levels below 50 nmol/L and thus had a suboptimal vitamin D status." The scientists also observed shortages with regard to some of the other micronutrients. Notably, 27 percent of older adults had vitamin B12 levels below the cut-off. Moreover, in 11 percent of older [adults](#), iron levels were too low,

and almost 9 percent did not have enough folate in their blood.

EPI director Professor Annette Peters puts the data into context: "By means of blood analyses, the current study has confirmed the critical results of the last German National Nutrition Survey (NVS II), which revealed an insufficient intake of micronutrients from foods. This is a highly relevant issue, particularly in light of our growing aging population."

The majority of [older adults](#) with suboptimal vitamin levels were very old, physically inactive or frail. Special attention should, therefore, be paid to these groups with a higher risk for micronutrient deficiencies, explain the researchers. "Our study also shows that regular intake of vitamin-containing supplements goes along with improved levels of the respective vitamins," says Barbara Thorand. "However, [vitamin](#)-containing supplements are not a universal remedy, and particularly older people should watch out for maintaining a healthy and nutritious diet."

In this context, the authors say their next objective is to continue investigating the metabolic pathways that link supplement intake, micronutrient status and disease states.

**More information:** Romy Conzade et al, Prevalence and Predictors of Subclinical Micronutrient Deficiency in German Older Adults: Results from the Population-Based KORA-Age Study, *Nutrients* (2017). [DOI: 10.3390/nu9121276](https://doi.org/10.3390/nu9121276)

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