

# Zinc may reduce pneumonia risk in nursing home elderly

October 22 2007

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When elderly nursing home residents contract pneumonia, it is a blow to their already fragile health. Simin Nikbin Meydani, DVM, PhD of the Jean Mayer USDA Human Nutrition Research Center on Aging at Tufts University and colleagues report that maintaining normal serum zinc concentration in the blood may help reduce the risk of pneumonia development in that population.

“Based on our data, it appears that daily zinc intake can help nursing home residents who are susceptible to pneumonia, especially those with low serum zinc concentrations in their blood,” says Meydani, corresponding author and director of the Nutritional Immunology Laboratory at the USDA HNRCA . “The study participants with normal serum zinc concentrations in their blood reduced their risk of developing pneumonia by about 50 percent. Additionally, deaths from all causes were 39 percent lower in this group.”

Meydani and colleagues analyzed blood samples from a previous study that investigated the role of Vitamin E in preventing respiratory infections in nursing home residents ages 65 and older. The study enrolled 617 men and women from 33 nursing homes in the Boston area. All of the participants received daily supplements containing 50 percent of the recommended dietary allowance of several vitamins and minerals, including zinc, for one year. Foods that provide zinc include oysters, red meat, poultry, whole grains, beans and dairy products.

In the present study, published in the October issue of the *American*

*Journal of Clinical Nutrition*, the authors compared blood samples collected at the beginning and the conclusion of the one-year study. The participants whose serum zinc concentrations remained low throughout that 12-month period had more difficulty battling pneumonia. “Not only did those participants have a higher risk of developing pneumonia when they did become sick, they did not recover as quickly and required a longer course of antibiotics,” says Meydani, who is also a professor at the Friedman School of Nutrition Science and Policy and the Sackler School of Graduate Biomedical Sciences, both at Tufts University. “We also noted a higher rate of death from all causes.”

Maintaining normal serum zinc concentration in the blood throughout the 12-month study period benefited the participants even if they did develop pneumonia. Meydani adds, “Those participants with normal serum zinc concentrations in their blood were more likely to spend fewer days on antibiotics and recover more quickly.”

Meydani and colleagues conclude that zinc may reduce the risk of pneumonia, and its associated complications in nursing home residents. “Zinc is already known to strengthen the immune system; however, there needs to be further investigation of zinc and its effect on pneumonia development and prevention in nursing homes,” Meydani says. “The next step would likely be a clinical trial.”

Source: Tufts University

Citation: Zinc may reduce pneumonia risk in nursing home elderly (2007, October 22) retrieved 9 April 2024 from <https://medicalxpress.com/news/2007-10-zinc-pneumonia-nursing-home-elderly.html>

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