Study finds zinc doesn't reduce mortality, other health risks, for heavy alcohol users living with HIV/AIDS

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Zinc supplementation did not reduce mortality, cardiovascular risk, levels of inflammation, or microbial translocation among people with heavy alcohol use living with HIV/AIDS, according to a Vanderbilt-led

study.

Although low adherence likely influenced the outcome in the trial, zinc significantly lowered mortality risk among those who were adherent, said the study's lead author, Matthew Freiberg, MD, MSc, professor of Medicine and Dorothy and Laurence Grossman Professor of Cardiology. This finding, combined with other recently published research reporting lower biomarker levels of inflammation among those receiving zinc, suggest that a larger study may be useful to determine the efficacy of zinc supplementation, Freiberg said.

The study, recently published in *JAMA Network Open*, followed 254 participants living with HIV/AIDS with heavy alcohol use for 18 months. Some participants received pharmacy-grade zinc supplementations, a known anti-inflammatory agent, while others received a placebo.

Freiberg noted that HIV is associated with non-AIDS diseases, including heart disease and cancer, but scientists are still studying what mechanism causes it. One possible mechanism is that HIV is an inflammatory disease that affects multiple organs and results in, for example, a leak of gut bacteria, or microbial translocation. The problem is exacerbated by HIV/AIDS itself but particularly when people living with it drink large amounts of alcohol.

Quitting alcohol is ideal, but Freiberg hypothesized that zinc supplementation could reduce harm to patients if they were unable to abstain because prior work demonstrates that zinc supplementation reduces microbial translocation. As an inexpensive product that has few drug interactions, he suggested it could be a scalable treatment to a wide population if effective.

"This kind of an intervention could work anywhere theoretically and

that's what we were planning when we designed this," Freiberg said.

He noted that the study group that took the zinc supplement had a 2% increase in mortality risk in 18 months, a statistically insignificant difference, but the group that received the placebo had a 20% increase in mortality risk. However, only 51% of the study population adhered to the medication regimen.

"I can't say, nor do I want to imply, that zinc is beneficial, because this study didn't show that," Freiberg said. "It does hint though that there may be some benefit, particularly for the people who took the medication and our adherence was low. What we saw is enough evidence to explore a little bit further."

More information: Matthew S. Freiberg et al. Effect of Zinc Supplementation vs Placebo on Mortality Risk and HIV Disease Progression Among HIV-Positive Adults With Heavy Alcohol Use, *JAMA Network Open* (2020). DOI: 10.1001/jamanetworkopen.2020.4330

Provided by Vanderbilt University

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