

The human ecology of Covid-19: a zinc link?

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Cultural factors (including religious, environmental and animal welfare ethics) affect an individual's zinc intake and absorption and hence their zinc status. I predict zinc deficiency is a widespread factor that elevates risk from Covid-19. Low zinc status is more likely in groups including the elderly¹, obese², some ethnic or regional populations^{3,4}, in pregnancy^{5,6}, in vegetarians or vegans^{4,5,6}, in the poor⁶ and in some genotypes⁶.

Zinc suppresses the common cold in some trials^{7,8}. It influences some immune function^{8,9} including lung inflammation¹⁰. Mobilisation or diversion of the body's zinc resources to defence against coronaviruses might explain loss of taste and smell^{6,11} and fatigue¹¹. If so, suspected causes and sequelae^{3,11} of zinc deficiency would be predicted to be in excess in patients with severe Covid-19. Diets such as veganism and vegetarianism should be investigated as factors potentially contributing to serious cases and deaths.

Traditional and recent cultural variation in diet^{6,11,12} will interact with recent environmental policies such as attempts to lower estimated 'carbon footprints'. The public should be alert to the likelihood of unintended consequences if individuals and institutions adopt low-meat diets on a limited evidence base. Monitoring zinc status is difficult^{6,13}, and simplistic attempts to ensure good zinc status through consumption without considering bioavailability^{6,11} are risky.

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