19 February 2021

BRIEF19

A daily review of covid-19 research and policy

RESEARCH BRIEFING

Zinc and vitamin C fall flat in treating covid-19.

High dose zinc and vitamin C have long been touted as popular cures for the "common cold." As such, they've been flying off the shelves during the covid-19 pandemic, despite a lack of compelling evidence. Some of this is explained by the usual justification: what's the harm? But just how useful are these remedies, truly, in the fight against SARS-CoV-2? Published recently in *JAMA Network Open*, the "COVID A to Z trial," sought to investigate.

This trial was a multi-center, single health system study which was completed in Ohio and Florida. The patients, who were 45 years old on average, were randomized 1:1:1:1 into groups that either received zinc (50 milligrams), ascorbic acid (also known as vitamin C, 8000 milligrams), both agents, or standard of care for 10 days. The primary outcome of interest was a 50 percent reduction in peak symptoms on a 4-point scale.

Just 214 patients, a small number of subjects, were enrolled. That relatively small number of subjects reflects the fact that—spoiler alert—the study being stopped after an early data analysis showed no benefit. In fact, the statistics were so disappointing, that the statisticians determined that the chances of the study turning out favorably for either zinc, vitamin C, or both was so improbable, that they had to throw in the towel and call it off.

The "standard care" group reported a reduction in symptoms after an average of 6.7 days compared with 5.5 for the vitamin C group, 5.9 in the zinc group and 5.5 days in the dual supplement group. These differences were *not* statistically significant and the overlap between the likely ranges was seen as destined to overlap (meaning that any difference would remain meaningless) even if they enrolled many more participants. Additionally, there was no difference in other outcomes, such as death or hospitalizations. Also unsettling was that in a secondary outcome (i.e. an outcome that was not the main purpose of the study but was included for the sake of curiosity and hypothesis building for future studies), those who received vitamin C alone had longer recovery times overall. While that finding was also not meaningful, it appeared to the naked eye to be the data point that was by far the most impressive. That does not mean that vitamin C would necessarily have been shown to be have caused or even be associated with longer recovery times, but it certainly implies that it's unlikely to ever show a benefit.

Even "negative" trials like these are helpful. After all, zinc and vitamin C frequently show up in remedies gain attention in the press and internet traffic from sources claiming that these inorganic compounds somehow possess magical powers. This leads to false hope and wasted money. Nevertheless, the unfortunate truth is that despite the lack of clinical evidence supporting the use of these remedies, many in both the medical and health world are likely to continue recommending them.

—Christopher Sampson, MD, FACEP

POLICY BRIEFING

FDA cracks down on fraudulent coronavirus cures.

Wherever there is fear or uncertainty, unscrupulous individuals will seek to profit. The covid-19 pandemic is no exception. In response to this, the US Food and Drug Administration (FDA) maintains an up-to-date list of products on its website that fraudulently claim to prevent,

treat, mitigate, diagnose or cure the disease. Reassuringly, a total of 146 products had been listed since last March, and as of this writing, only seven are still on the market.

The FDA has the authority to intercede when patients are at risk, using a range of options from warning letters, product seizures, injunctions, or even criminal prosecution depending on the degree of dereliction.

The site also includes a link that enables members of the general public to report any suspicious or concerning products that may not have yet caught the agency's attention. The long and short of it is that if a product makes claims that are too good to be true, they likely are. That's also why when the FDA has granted emergency authorization to medications for which the evidence is slim-to-none, such decisions undermine other more well-considered guidance. It's no wonder that the public does not always know what to make of many recommendations from the FDA. Similar problems have mounted in other areas of the US federal government. While the new administration has said it is committed to science over politics, regaining public confidence will not happen overnight.

—Brief19 Policy Team

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