

Prescriptions for ivermectin for the treatment of COVID-19 skyrocket despite dangers and lack of efficacy

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There has been a growing epidemic of the misuse of the anti-parasitic medication known as ivermectin for the prevention and treatment of COVID-19, although it has yet to be proven an effective treatment. And despite the lack of any valid scientific studies supporting its use, there have been droves of social media accounts of celebrities like Joe Rogan turning to the medication, which dangerously promotes the ongoing quackery.

To put into scale the lunacy of it all, the Centers for Disease Control and Prevention (CDC) reported that prescriptions for ivermectin have spiked to 88,000 per week. The pre-pandemic baseline average ran around 3,600 per week. Additionally, the American Association of Poison Control Centers has noted that there has been a five-fold jump in the number of calls regarding its abuse, significantly from those using veterinary formulations.

These developments prompted the US Food and Drug Administration (FDA) to admonish the public to stop abusing the anti-parasitic medication. Last week the Centers for Disease Control and Prevention (CDC) issued an alert to health care providers and the public on reports of severe illness in the misuse of ivermectin to prevent or treat COVID-19. More recently, the American Medical Association (AMA) issued a statement strongly opposing “the ordering, prescribing, or dispensing of ivermectin to prevent or treat COVID-19 outside of a clinical trial.”

The AMA wrote, “We are alarmed by reports that outpatient prescribing for and dispensing of ivermectin have increased 24-fold since before the pandemic and increased exponentially over the past few months.” They warned that the veterinary forms of this medication come in highly concentrated formulations intended for large animals that could be toxic to individuals using them.

One could perhaps grimace in dismay over one comedian telling his 13 million followers that he used medication intended to deworm livestock, pets or people exposed to helminths parasites, such as roundworms, flukes and tapeworms. But when ivermectin is promoted as the answer to COVID-19 through a political and media campaign, something far more sinister is involved.

On August 23, Judge J. Gregory Howard of the Butler County Common Pleas Court in Ohio ordered West Chester Hospital to administer ivermectin to a patient named Jeffrey Smith, who was being cared for in their intensive care unit, despite the FDA’s position against its use.

Smith contracted COVID-19 sometime in early July, testing positive on July 9. He was admitted to the hospital on July 15. However, his condition deteriorated and he was placed in a medically induced coma and supported on a ventilator on August 1. Apparently, the course of his treatment was difficult and despite having exhausted all course of treatment and COVID-19 protocols, his condition continued to deteriorate. His wife asked the hospital administrators to offer her husband ivermectin,

but they refused. According to NBC News , “Julie Smith sought a declaratory judgment demanding the hospital follow her request, and the judge fulfilled her request.”

Even worse is the revelation by the Associated Press that inmates in a northwest Arkansas jail were given ivermectin without their knowledge, while being told that this was medicine for COVID-19. One prisoner, William Evans, told AP, “They were pretty much testing us in here is all they were doing, seeing if it would work.” He was given the drug for two weeks after he tested positive for COVID-19. Another prisoner, Edwin Floreal-Wooten, said he would never have taken a medicine for farm animals: “Never. I’m not livestock. I’m a human.”

Pressure is now being placed on hospitals by other families with loved ones struggling on ventilators to provide the medication to them. In a similar case at Memorial Center in Springfield, Illinois, a Sangamon County judge ruled in favor of the hospital, citing the fact that the patient, a 61-year-old-male, was improving and no longer had active COVID. The judge also explained that the medication’s side effect could injure his kidneys or lungs, compromising his tenuous state.

This hasn’t stopped Ralph Lorigo, a Buffalo, New York, attorney who took on the Springfield, Illinois case, from leading the charge on other ivermectin cases, using the argument that family members have the right to “save” their loved ones. He has thus far successfully sued in New York, Illinois and Ohio.

The issue here is not the despair of families, which is real, and the blame for it lies on the entire political spectrum that has allowed the virus free rein to infect and kill millions. Rather, the issue at the center of this discussion is whether the standard of care in treating a patient is being met. The argument being employed on behalf of ivermectin is both reactionary and dangerous.

Ivermectin: a brief recent history

Given the hype over ivermectin and the controversies being generated, few take note that in 2015, the Nobel Committee awarded the prize in physiology or medicine to three scientists who had discovered drugs hidden in various plants and soils that could treat disfiguring and deadly parasitic infections. Parasitic diseases plague an estimated one-third of the world’s population, particularly among the poorest in sub-Saharan Africa, South Asia and Latin America.

Two of the awardees, Drs. William C. Campbell and Satoshi Omura, developed avermectin in the 1970s, the parent of the now infamous ivermectin, which has helped nearly eradicate river blindness and

drastically curtail the incidence of filariasis, a condition that leads to the swelling of lymphatic channels in the legs, causing a condition colloquially called Elephantiasis. The third scientist recognized for the Nobel was Dr. Tu Youyou of China who discovered artemisinin, a drug that has become the mainstay in the prevention of malaria.

The Nobel Committee wrote, “These two discoveries [ivermectin and artemisinin] have provided humankind with powerful new means to combat these debilitating diseases that affect hundreds of millions of people annually. The consequences in terms of improved human health and reduced suffering are immeasurable [because parasitic diseases] represent a huge barrier to improving human health and well-being.”

The World Health Organization (WHO) has estimated that approximately 1.5 billion people have been infected with soil-transmitted parasitic worms. More than half of those infected are children who can develop severe abdominal pain with debilitating diarrhea, leading to serious malnutrition. The WHO has recommended that those living in endemic areas periodically take these medications as forms of prevention, a treatment also known as deworming.

Alongside its use among a large swath of the population affected by these devastating infections, ivermectin’s use in veterinary medicine followed its discovery and large-scale manufacturing by Merck. Veterinarians have been using it for nearly 40 years to treat heartworm disease in some small animal species as well as certain internal and external parasites in various animal species.

Interestingly, though now in their 90s, Dr. Campbell and Dr. Omura have had an opportunity to weigh in on the controversy surrounding ivermectin, though with opposed sentiments.

In April 2020, the Royal Irish Academy asked Dr. Campbell if ivermectin could kill SARS-CoV-2. The question was raised after a study conducted the previous month at Royal Melbourne Hospital’s infectious diseases reference laboratory that found ivermectin had a significant ability to inhibit the virus from replicating under *in-vitro* conditions (in a test tube, culture dish or outside a living organism.)

In a lengthy response, he warned that the concentrations used in these tests on mammalian cells were many magnitudes higher than would be tolerated in humans. In high concentrations, ivermectin can lead to many gastro-intestinal disturbances as well as the suppression of breathing, coma and possibly death.

Thoughtfully, Dr. Campbell emphasized the need for future studies to determine if ivermectin truly possessed anti-viral efficacy, before using it in a clinical setting. He wrote, “On the other hand, it has been approved for use against parasites, not against viruses: and awareness of ivermectin’s prior approval for a different use carries the risk of unduly raising hopeful expectations in this matter, with attendant risk of hasty and ill-considered action.”

However, Dr. Omura, who is affiliated with Kitasato University, has allied himself with promoting ivermectin and its use in fighting the coronavirus, in what amounts to a long descriptive essay published in the *Japanese Journal of Antibiotics* in March 2021. Many of the studies cited in his report have never been peer reviewed and suffer significant methodological flaws. Many of the sources have been lifted from pseudo-scientific platforms that have uncritically collected any publication that support their views.

Scientists speak out on ivermectin

In Brazil, where ivermectin has been heavily promoted by the government of fascist President Jair Bolsonaro, a professor of microbiology at the University of Brasilia, Dr. Fabiana Brandão, speaking

with *Estadao*, explained, “although the [pseudo-scientific] platform, Ivmmeta.com, presents a structure alluding to scientific works, including graphics and mathematical calculations, the site has dangerous content with harmful interpretations full of [erroneous] and biased data.” She notes that the presented studies have not been analyzed by other scientists in the same fields, and that often the studies have characteristics that do not even lend themselves to being compared.

Marcio Bittencourt, a researcher at the University Hospital of the University of São Paulo, highlighted that these studies have been selected based on their favorable results, but have failed to be published in journals or reviewed by experts. Many of the study authors do not even identify themselves or take responsibility for the data they present. Meanwhile, even Dr. Omura’s survey conceded that the WHO and the NIH have recommended against the administration of ivermectin for COVID-19 prevention or treatment.

Dr. Mellanie Fontes-Dutra, a doctor of neurosciences at the Federal University of Rio Grande do Sul, called Omura’s work a “theoretical dissertation,” which does not provide confirmation or refutation of the efficacy of ivermectin. However, it is precisely such an objective evaluation that has been lacking, which makes the pseudo-scientific façade presented by Ivmmeta dangerous. Fontes-Dutra explained that to confirm or discard the effectiveness of ivermectin, it would be necessary to conduct “meta-analyses with extremely outlined methodologies, randomized and controlled clinical trials are important and have immense weight to hammer out on a subject. Even signed by a Nobel, this [Omura’s] article does not change the current state of understanding of the use of ivermectin for COVID-19.”

The science on ivermectin

The pandemic continues to spin out of control, killing more every day without any effort on the part of the ruling elites to stem these repeated waves of infections that enable the convergent evolution of more lethal strains of the coronavirus. Despite the success in developing the COVID vaccines, vaccination has been used not as a mechanism in a comprehensive array of public health measures to eliminate and eradicate the virus globally, but as a means of lulling the population into accepting the inevitability that the virus is here to stay.

Finding therapeutics that can limit the severity of or prevent COVID-19 is a serious and medically rewarding venture. For instance, the Randomized Evaluation of COVID-19 Therapy (RECOVERY) trial results has established the significance of the drug dexamethasone in the intervention in severe COVID-19 cases. Remdesivir and monoclonal antibodies, under specific criteria, appear to have modest efficacy. Medicinal oxygen is a cornerstone for the management of moderate to severe COVID-19 cases.

Meanwhile, drugs like chloroquine and hydroxychloroquine, as well as the antibiotic azithromycin, have proven ineffective. The current frenzy and broad-based abuse of ivermectin, however, limits the ability to ascertain in well-designed trials its utility in COVID cases. Yet, when the governments and public health institutions in countries like Brazil, Peru, Colombia and even France, promote and condone without evidence the use of this drug, it sets a dangerous precedent. Even in the face of a health care crisis, properly conducted trials are the cornerstone of identifying reliable and effective treatments. It is precisely in a crisis that such information is most critical.

Perhaps the most compelling review of the evidence thus far was conducted by the Cochrane Library, which maintains a collection of databases in medicine and other health care specialties that conduct

systematic reviews and meta-analyses which provide summaries and interpretations of the medical research. The non-profit institution is named after Dr. Archibald Leman Cochrane, a Scottish doctor who is well known as a principal figure in modern clinical epidemiology and considered the originator of the idea of evidence-based medicine.

In a 16-page report issued by the Cochrane Library this year, titled, “Ivermectin for preventing and treating COVID-19,” noted that earlier scientific work from a decade ago on ivermectin’s *in-vitro* mechanism of action found it could inhibit a particular “human cargo protein complex” that carries the HIV-1 and other RNA viruses into the nucleus and initiates replication. Though ivermectin showed potential in inhibiting viral replication *in-vitro*, they found no evidence of its clinical effectiveness on people infected with SARS-CoV-2.

In the companion summary report where the results of their analysis are published, the authors found, after limiting consideration to studies considered valid for review, 14 studies with 1,678 participants investigating the use of ivermectin. Of these, nine studies analyzed treatment of patients with moderate disease, four with mild disease, and one on the prevention of SARS-CoV-2 infection. Only six studies were double-blinded and placebo-controlled. They note, however, “Of the 41 study results contributed by included studies, about one-third were at overall high risk for bias,” or unreliable. The reader is encouraged to review and read the summary using the link above in this paragraph.

They concluded, “Based on the current very low- to low-certainty of evidence, we are uncertain about the efficacy and safety of ivermectin used to treat people with COVID-19 in the inpatient and outpatient settings and to prevent a SARS-CoV-2 infection in people after having high-risk exposure. There is also no evidence available from the study pool as to which is the best dose and regimen of ivermectin. Overall, the reliable evidence does not support the use of ivermectin for treatment or prevention of COVID-19 outside of well-designed randomized controlled trials.”

Conclusion

While hydroxychloroquine as a miracle drug against COVID was exposed early on, ivermectin’s use, through its promotion by the likes of Joe Rogan or ultra-right Republican senators Rand Paul of Kentucky and Ron Johnson of Wisconsin, has skyrocketed among those claiming to be antivaccine or vaccine-hesitant. The phenomenon is not unique to the US, as many countries’ governments or celebrities have advocated for their use. And, most disconcerting, given this hype, these dubious studies find their way into medical journals, gaining relevance not based on the merits but rather by the very fact of publication. In other words, the study’s presence in a journal grants it authority rather than the weight of its evidence.

The case of Dr. Pierre Kory, the president of Front-Line COVID-19 Critical Care Alliance (FLCCC) is worth citing. He testified before a Senate Homeland Security and Governmental Affairs Committee hearing on Capitol Hill on December 8, 2020, seeking to convince lawmakers to make ivermectin routine in the care of COVID-19 patients and offered as prophylaxis.

His study on the review of the emerging evidence on ivermectin, published in the *American Journal of Therapeutics* in June 2021, was rejected by *Frontiers Science News*, stating in their rejection letter after a careful review, “Upon further scrutiny by our Research Integrity team about the objectivity of this paper during the provisional acceptance phase, it was revealed that the article made a series of strong, unsupported claims based on studies with insufficient statistical significance, and at

times, without the use of control groups. Further, the authors promoted their own specific ivermectin-based treatment which is inappropriate for a review article and against our editorial policies. ... In our opinion, this document does not offer an objective or balanced scientific contribution to the evaluation of ivermectin as a potential treatment for COVID-19.”

What lies at the center of these controversies is the struggle for scientific truth, which is on par with the fight for historical truth. The complete disregard for the conduct of studies, the principle that the truth and not financial opportunity, should be the guide, the statistical manipulation of data, speaks to the complete bankruptcy of the capitalist order. This functions as an extreme form of postmodernism that challenges every reality that is scientifically validated. In this sense, the fight for scientific truth becomes a struggle for a correct political orientation.



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