

# Much ado about ivermectin

This anti-parasitic drug does not offer a miracle cure for Covid-19, as believed by many.



A recent study reveals that patients who received IVM required invasive mechanical ventilation earlier in their treatment for Covid-19. — Bernama



Some individuals do not get vaccinated because they believe that an IVM tablet a week confers protection against Covid-19. — 123rf.com



Just because a drug kills viruses in Petri dishes in the laboratory, it doesn't mean it will kill the virus in a human body. — TNS

cess in real life.

In order to ascertain that a drug is both safe and efficacious, clinical trials need to be conducted.

## Clinical trials

When deciding if a particular drug or intervention works, it is important to separate correlation from causation.

For example, it can be said that everyone who drinks water will die but that does not mean drinking water causes death.

A randomised control trial (RCT) is the gold standard for clinical trials.

It is designed to minimise bias, to look specifically at the impact of a particular intervention and to help us understand how large the impact may be.

There is no perfect RCT, but part of its appeal is that the methodology

has to be transparent and its results objectively reviewed by those who are not involved in the trial.

The most important part of a RCT is the method in which it was conducted, not the conclusion, although it is the conclusion that often makes the headlines.

An analogy is the reading of financial statements: if Company A gives a statement that it has made RM1 billion in profits, the relevant stakeholders should not automatically assume that the CEO is making the statement, but should conduct a thorough audit into accounting methodology in order to find out how that summary was reached.

## More evidence needed

When scrutinised using the RCT lens, there does not appear to be any convincing evidence for the use of

IVM in the treatment of Covid-19 at this point in time.

A study in *The Journal of the American Medical Association* that was published in March 2021 showed that the duration of symptoms from Covid-19 was not significantly different for patients who received a five-day course of ivermectin compared with a placebo.

A study by Abd El-Salam and colleagues that was published in the *Journal of Medical Virology* revealed that adding IVM to standard care did not change outcomes in mortality or the length of hospital stay.

More worryingly, the Ivercor-Covid-19 trial by Vallejos et al, published this month in the journal *BMC Infectious Disease* not only showed that IVM had no significant effect on preventing hospitalisation of patients with Covid-19, but that patients who received ivermectin required invasive mechanical ventilation earlier in their treatment.

In other words, those on IVM had to go on a ventilator earlier.

Perhaps the most disturbing update of all is the exposé by *The Guardian* newspaper in the United Kingdom earlier this month on a study that was previously used to show that IVM reduced death amongst those with Covid-19.

The study, which concluded that there was "a substantial improvement and reduction in mortality rate in IVM treated groups" by 90%, was withdrawn due to "ethical concerns" with allegations that the data used was manipulated.

## Ignorance is not bliss

There are some who argue that desperate times call for desperate



measures, and if there is no harm in using a drug, then we should try it out. This has happened in the past with other medications such as hydroxychloroquine, which has since proven to not only have no effect on Covid-19, but worsens the outcome.

Misusing and mispromoting a drug can have severe, unintended consequences.

Some individuals do not get vaccinated because they believe that an IVM tablet a week confers protection against the SARS-CoV-2 virus.

Others take ever increasing amounts, forgetting or ignoring the fact that the FDA has warned that the drug has a range of potential side effects from nausea and vomiting to seizures, coma and death.

Funding that is used incorrectly is funding taken away from other life-saving interventions.

Right now, we need all the funds we can get to ensure that our healthcare system does not crash under the increasing number of Covid-19 cases.

## Follow the science

It is tempting to think that a single tablet will not only prevent, but cure a disease that has changed our lives as we know it.

However, there is a reason that not a single regulatory or professional body has approved the use of IVM for Covid-19 at this point in time.

Even the manufacturer, Merck, has said that it should not be misused despite the fact that they have been giving away billions of these tablets and stand to gain a lot both financially and in marketing.

It is hoped that ongoing studies, including those conducted by our Health Ministry, will shed even more light on the role of IVM on the management of Covid-19.

Science is not about dogma; we follow the evidence, and if there indeed does emerge positive evidence of the drug's role in treating Covid-19, then it would be necessary for the medical fraternity to change practices and guidelines accordingly.

Until then, it would be safer for both individuals and society at large to only take medications that have been approved for the right indications and not fall prey to lobbyists or politicians who have vested interests in pursuing populist agendas.

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## Health matters

DR HELMY HAJA MYDIN

THERE is no doubt that we are facing a public health crisis.

News is pouring in daily on the increasing number of Covid-19 cases, leading to higher utilisation of intensive care unit beds as well as higher number of deaths.

The healthcare system is under strain, with infrastructure and frontliners reaching maximal capacity.

In such a scenario, many are lobbying for the use of ivermectin (IVM) as a drug that can help stem the increasing number of cases.

## What is ivermectin?

Depending on who you talk to, IVM can prevent and/or cure Covid-19.

This anti-parasitic drug has been around for decades, having been developed in the 1970s by the Kitasato Institute of Japan and Merck & Co, one of the biggest pharmaceutical companies in the world.

In a move rarely made by big pharma, Merck decided to give away IVM through its Mectizan Donation Program.

The programme works to identify and treat those who are at risk of onchocerciasis (river blindness) and lymphatic filariasis (or elephantiasis).

It has been estimated that more than three billion treatments have been given over the past 30 years, improving and saving many lives.

## IVM and Covid-19

In April 2020, researchers in Australia reported the results of their laboratory experiments with IVM on the virus SARS-CoV-2.

The paper "Ivermectin inhibits the replication of SARS-CoV-2 in vitro" by Caly et al, was published in the journal *Antiviral Research* with the conclusion that "a single treatment was able to effect a 5,000x reduction in virus at 48h cell culture".

This paper triggered the start of intense, passionate debates on the role of IVM in the management of Covid-19.

After all, if the drug kills viruses in Petri dishes in the laboratory, then surely it will kill the virus in a human body right?

Well, not quite.

A Petri dish does not represent the hugely complicated environment and processes of a living, breathing and dynamic human body.

In the study above, the concentrations of the IVM used were so high that they would be equivalent to up to 30 times the maximum dose allowed by the Food & Drug Administration (FDA), the federal agency responsible for protecting and promoting public health in the United States.

Promising findings in the laboratory do not always translate to suc-