Asia-Pacific Chiropractic Journal

SCIENTIANUNTIUM

Covid-19 and the role of chiropractic in the healthcare arena: Omicron Variant: Pre-Publication Update, 27 December 2021

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Abstract: To provide a rapid overview of the current published knowledge of the Omicron Variant, as a pre-publication update for the 3-part series 'COVID-19 and the role of chiropractic in the healthcare arena. This series is scheduled for publication in these pages in January2022.

Indexing Terms: chiropractic; immunity; COVID; Omicron; variant.

Introduction

Just as the article on the role of the chiropractic profession into prevention, early treatment, and care of long COVID was going to publication the Omicron Variant has entered the landscape. Much of the research shared in this update has been generated in the last one-two weeks. The predominate theme from all the evidence is that we can't make any determinations until we get a clearer picture and that we simply '*don't know enough yet.*'

Yet typically the news media and pundits are speaking with certitude and these proclamations are one thing we need to be cautioned against following. One thing that seems characteristic of COVID-19 and other pandemics is a desire to act as if we have answers and know exactly what is going on. This is presumed to be good public healthcare policy to make sure the masses are not panicking. However it may be that informing the public about what we know and what do not know may lead to a greater trust in our healthcare leaders and political agencies.

What do we know about Omicron?

We are not sure how successful the vaccines (with boosters) and natural immunity are against the Omicron variant. It appears that exposures are predominately '*associated with international and domestic travel, large public events, and household transmission.*' (1, 2) Ingraham and Ingbar (3) note that 'the environment may be prime for viral adaptation.' (4) When both immune pressure (from vaccinations) and viral abundance are present at moderate levels, the rate of variant evolution peaks along its theoretical bell curve. (3, 4)

FAST FACTS

There are close to 50 mutations in the omicron variant compared to the original SARS-CoV-2 virus detected in China in 2019. These changes are manifesting in several key ways.

In South Africa, it appears that its omicron wave has already peaked without heavy casualties. How bad omicron gets also hinges on how people respond to it, particularly when it comes to getting vaccinated or boosted.

Early reports from places like South Africa and the United Kingdom showed a precipitous rise in new Covid-19 cases, but so far hospitalizations have not surged as dramatically in their wake. That could be because omicron doesn't make people as sick, but it could also be that those areas already have widespread immunity from previous waves of Covid-19 and from vaccines. Better treatment options may also be cushioning the blow.

It seems clear that omicron will become the dominant source of new Covid-19 cases in the United States as well, but whether that's followed by extreme illnesses and deaths is less certain.

Source:
Umair Irfan, VOX. 23 December 2021. Link here

It is suggested that '*Omicron contains mutations linked to both transmissibility and immune escape, it may be a combination of both aspects that drive Omicron's presumed dominance over other strains.*' (3) Yet the true rate of transmissibility will likely take weeks and will require international cooperation to determine the prevalence of the variant and whether current mitigation strategies are effectively utilized. (3) '*Thus far, Omicron-infected patients requiring intensive care with intubation have not yet been recognized and reported at this very early time since discovery.*' (3) So essentially the early signs are showing that Omicron causes less severe symptoms than previous variants and offers us some reassurance. (2)

What are some specific symptoms of Omicron?

Because the information is rapidly formulating it is not unusual to see conflicting information. (1, 5, 6) For instance one news source (5) described the most common Omicron symptoms including:

- Fever
- Tiredness
- Cough
- Aches/Pains
- Sore throat
- Headache (5)

However the Center for Disease Control (CDC) (1) described the most common Omicron symptoms as including:

- Cough
- Fatigue
- Congestion
- Runny Nose1

The symptoms that are coming out of South Africa by the doctors that are looking after patients with Omicron have shared these five new symptoms. (6)

- Scratchy Throat
- Mild Muscle Aches
- Extreme Tiredness
- Dry Cough
- Night Sweats6

One preliminary possible odd symptom is a sleep disorder called '*sleep paralysis.*' (6) '*Sleep paralysis is when you cannot move or speak as you are waking up or falling asleep. It can be scary but it's harmless and most people will only get it once or twice in their life.*' (6) The harmless symptoms can be scary as people are unable to move or speak or open their eyes. They may also feel like someone is in the room, feelings of fear, or a sensation like someone is pushing them down and can last up to several minutes at a time.

Current research is not clear why sleep paralysis occurs with the Covid/Omicron variant, but it has been linked with stress and anxiety, post-traumatic stress disorder, narcolepsy or insomnia. (6)

Symptoms comparison

SYMPTOMS	DELTA	OMICRON	COLD	FLU
FEVER	Common	Common	Rare	Common
TIREDNESS	Sometimes	Common	Sometimes	Sometimes
COUGH	Common	Common	Mild	Common
SNEEZING	No	No	Common	No
ACHES/PAINS	Sometimes	Common	Common	Common
RUNNY NOSE	Rare	Rare	Common	Sometimes
SORE THROAT	Sometimes	Common	Common	Sometimes
DIARRHEA	Rare	Rare	No	Sometimes
HEADACHE	Sometimes	Common	Rare	Common

Table of Covid-19 Omicron Variant Symptoms. [https://www.coventrytelegraph.net/news/uk-world-news/unusual-omicron-warning-sign-you-22552183]

What groups might have the most adverse reactions to Omicron?

There is preliminary evidence suggesting that there may be an increased risk of infection with this variant for patients who have been vaccinated or previously had COVID-19 infection, since we are unclear about the effect of their immune response against Omicron. (2, 7, 8) Still the World Health Organization (WHO), cautions that extra attention is needed to get all of their vulnerable people fully vaccinated, particularly the elderly and those with conditions that can worsen COVID-19. (7)

The Teixeira et al study (9) showed '*that patients with major psychiatric disorders were more likely to have comorbidities, which are associated with worse COVID-19 outcomes. This association was particularly noted in patients with schizophrenia, who were recorded to have high mortality rates from COVID-19 infection.*' (9) In light of these findings, vaccination becomes more prudent for patients with psychiatric comorbidities to help lower the morbidity and mortality secondary to COVID-19 infection. (8) Conversely another important aspect of this most recent outbreak with the Omicron variant will be its impact on the mental health of health care providers across the globe. (8, 10, 11)

What are some preventative behaviours recommended for Omicron?

While we are only beginning to understand what it takes to prevent the spread of COVID-19, the CDC recommends for Omicron prevention that people follow strategies such as vaccination, wearing a mask in public indoor settings and in areas of substantial or high community transmission, reduced international travel, increasing ventilation, washing hands frequently, physically distancing from others, testing, quarantine, and isolation. (1, 12)

It may be that a shift in focus from vaccination to the other preventative measures listed by the CDC1 might be something necessary for dealing with Omicron. This is because Wang and Powell (13) caution that ;it is unclear whether the COVID-19 vaccinations still function in preventing from Omicron variants and whether life-saving protection and vaccinated populations can be re-infected, '*because the Omicron variants may have different numbers and sequencing of mutations that may potentially evade the humoral and cell-mediated response provided by vaccination.*' (13)

What are some preventative procedures and early treatment associated with Omicron?

Since the main concept is that *'at this time we don't know*,' it would seem the procedures suggested in this paper's sections on prevention and early treatment would be prudent considerations until more information is gathered. There is some promising yet unusual studies into Chinese Traditional Medicine's uses of human menstrual blood-derived mesenchymal stromal cells (MSC) (14, 15) as potential treatment options for patients with Omicron variants.

A study by Xu et al found that '*patients in the allogeneic, menstrual blood-derived MSC therapy group showed significantly lower mortality (7.69% died in the experimental group vs 33.33% in the control group; P = .048). There was a significant improvement in dyspnea while undergoing MSC infusion on days 1, 3, and 5. Additionally, SpO2 was significantly improved following MSC infusion, and chest imaging results were improved in the experimental group in the first month after MSC infusion*.' (15)

It has been found that the novel Omicron variant replicates faster than the original SARS-CoV-2 virus and Delta variant in the human bronchus. At 24 hours after infection, the Omicron variant replicated around 70 times higher than the Delta variant and the original SARS-CoV-2 virus. In contrast, the Omicron variant replicated less efficiently (more than 10 times lower) in the human lung tissue than the original SARS-CoV-2 virus, which may suggest lower severity of disease.

'*It is important to note that the severity of disease in humans is not determined only by virus replication but also by the host immune response to the infection, which may lead to dysregulation of the innate immune system, i.e. "cytokine storm"*,' said Dr Chan. '*It is also noted that, by infecting many more people, a very infectious virus may cause more severe disease and death even though the virus itself may be less pathogenic*.' (16)

Conclusion

So as we await more information there are some key questions asked by Ingraham and Ingbar, (3) which can keep us on target:

- '*What are the transmissibility and infectivity of this variant?*'
- '*How effective is each of the vaccines in preventing or mitigating Omicron infection?*'
- '*What are the severity, lethality and long-term sequelae of Omicron infection?*'
- '*How efficacious are currently used therapies in Omicron treatment (monoclonal antibody infusion, for example)?*'
- '*How much protection against Omicron infection and serious illness, including death, is conferred by prior COVID-19 infection?*' (3)

Until we are gaining answers to these questions we do our patients and other healthcare providers a disservice if we pretend that we have resolved these uncertainties. There is nothing wrong with admitting '*we don't know*,' and until the time of greater resolution low risk preventative behaviours would appear the best options.

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Cite: Blum C. Covid-19 and the role of chiropractic in the healthcare arena: Omicron Variant: Pre-Publication Update, 27 December 2021. Asia-Pac Chiropr J. 2021;2.4. URL apcj.net/papers-issue-2-4/#BlumOmicron

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