Message from the
Philippine Society of Hypertension

COVID-19 and High Blood Pressure

March 14, 2020

There were two recent articles (Zheng, Ma & Xie, 2020, Zhou et. al., 2020) that have caught the attention of the public on the association of COVID-19 and high blood pressure. As reported, severe pneumonia in COVID-19 and even death were highest among individuals who have hypertension.

Angiotensin-converting enzyme 2 (ACE2), abundant in heart and lungs, has vital role for heart function and system to fight infection (immune system).

SARS-CoV and SARS-CoV 2 (COVID-19) and other coronaviruses attach to ACE2 and trigger infection.

ACE-1 inhibitors (e.g. Lisinopril, Ramipril) and angiotensin II receptor blockers (e.g. Losartan, Telmisartan, Valsartan), drugs for lowering blood pressure, do not have effect on the function of ACE2, see Figure 1.

![Figure 1](image)

**Figure 1.** The balance of ACE/Ang-II and ACE2/Ang(1-7) axes and their physiologic effect and the areas of actions for ACE inhibitors and Angiotensin II receptor blockers (ARBs).


Although ACE2 levels increase with these drugs, there is **no scientific evidence that they can be used as treatment for COVID-19.**

To date, there is **no clear explanation** why COVID-19 is most severe among patients with hypertension and heart disease.
The Philippine Society of Hypertension (PSH)
Insights and Recommendations
May 14, 2020

1. Do not use ACE inhibitors and ARBs to treat COVID-19.
2. Do not stop nor change ACE inhibitors and ARBs treatment even in patients who have COVID-19, as long as the BP is controlled.
3. For those with hypertension and heart disease who are at high risk for COVID-19 infection, extra protective measures, early detection, and aggressive treatment must be instituted because they have been shown to decrease mortality.

Note: These recommendations may change until more solid scientific evidence will come out and show that removal or discontinuation of ACE inhibitors and ARBs treatment of a hypertensive individual infected with COVID-19 will have a better clinical course.

References:


