

Editorial

Nutrition, Immunity and COVID-19

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The latest national and global health crisis is the ongoing pandemic of the infectious respiratory disease that was named as Coronavirus disease (COVID-19) in December 2019 (WHO, 2019). At the time of this article preparation almost 3 million cases and over 202,000 death have been reported worldwide (WHO, 2020). These numbers are dramatically increasing day by day. In Malaysia, up until 28 April 2020 a total of 5820 cases and 99 death were recorded (WHO, 2020).

COVID-19, caused by the coronavirus, is primarily spread during close contact such as touching and by fluid droplets produced through cough, sneeze or talk. Once the virus enters human body, it penetrates the cell of lungs, arteries, heart, kidney and intestines via the angiotensin converting enzyme 2 receptors, or ACE2 receptors (Hoffmann *et al.*, 2020). Inside the cells, it takes control of the cell's genetic reproduction process, replicates itself, and burst through the cell membrane. The severity of this infection may vary depending on the host's age, health condition and immune status. During an outbreak, good nutrition and a healthy lifestyle is extremely important.

This editorial serves to highlight: (a) the importance of public health nutritionists to play our part to promote healthy eating among the population to prevent or reduce the severity of the disease; (b) highlight the importance of research on nutrition and immunity which is not extensively explored in Malaysia.

This pandemic has emphasised that good nutrition and a healthy life is the key to strengthening immunity. This is particular important for the vulnerable group, including the elderly and people with underlying medical problems. Having a healthy bodyweight and consuming balanced diet (with particular focus on variety of fruits and vegetables) are important elements for supporting immune system that may help limit the severity of illnesses in those infected. Eating according to the Malaysian Dietary Guidelines as recommended by the Ministry of Health Malaysia ensures the intake of adequate amounts of energy, protein, micronutrients and other food components is the key to developing good immune system. Various dietary factors have gained particular attention. These include some vitamins and minerals (especially vitamin D, A and C, and zinc and iron), phytonutrients (bioactive compounds with antioxidant activities), and factors that promote gut health (including dietary fibre, adequate water and probiotics).

As a public education initiative, the Nutrition Society of Malaysia and Nutrition Month Malaysia (<http://nutriweb.org.my/index.php> and <https://www.nutritionmonthmalaysia.org.my>) have developed posters and media articles to emphasise to the population the importance of practising healthy eating and healthy lifestyle to fight COVID-19 while they are confined to the homes during the Movement Control Order (MCO). Notably several agencies and individuals utilise the social media

extensively in promoting health eating. Nutritionists should alert the public about dubious miracle cures. There are also researchers who conduct online surveys on investigating the effect of MCO on dietary intake, health behaviour and physical activities. Such initiatives are important, and findings should be shared with multiple stakeholders soon for further action as it does not seem likely that Malaysians, and indeed the whole world, will return to normal life any time soon.

COVID-19 pandemic had taught us some important lessons in many aspects of life that we have taken for granted, including nutrition and health. It is a wakeup call for Malaysians to pay more attention to healthy eating to maintain a healthy immune system. Indeed it is a timely reminder that good nutrition is the key to good health and prevention of diet-related diseases. It is imperative that the authorities pay serious attention to ensuring food and nutrition security for the population. The COVID-19 pandemic also reminds us that research on nutrition and immunity is still lacking in the country and it should be explored further with the support of multiple stakeholders.

References

- Hoffmann M, Kleine-Wever H, Kruger N, Muller M, Drotsten C, Pholhlmann S (2020). The novel coronavirus 2019 (2019-nCoV) uses the SARS coronavirus receptor ACE2 and the cellular protease TMPRSS2 for entry in target cells. *Cell* 181:1–10. doi:10.1016/j.cell.2020.02.05
- WHO (2019). Pneumonia of unknown cause - China: disease outbreak news. World Health Organization, Geneva. From <https://www.who.int/csr/don/05-january-2020-pneumonia-of-unkown-cause-china/en/>. [Retrieved April 12 2020].
- WHO (2020). Coronavirus disease 2019 (COVID-19) Situation Report – 96. World Health Organization, Geneva. From https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200425-sitrep-96-covid-19.pdf?sfvrsn=a33836bb_2. [Retrieved April 26 2020].