



Vaccines and the role of the immune system: An approach in decreasing COVID -19 mortality.

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The unprecedented outbreaks of flu-like illness in the last century have caused a huge disaster for mankind. Similar health disasters were also seen in this century, which succumbed to severe illness, but were brought under control, hence preventing it from becoming a pandemic. The outbreak of a novel coronavirus, the SARS-CoV-2 saw its unusual fate by taking a turn as a pandemic, with millions of lives taken worldwide and numbers still reaching their peak with each successive wave.

There are over billions of different types of viruses found in nature and most of them are found in the sea. Humans over their lifetime encounter several disease-causing viruses, but so far, our body's immune system has been able to cope with them. Furthermore, the SARS-CoV-2 could be defended, only if we had an immune system, which was familiar with this virus-like other virus known to humans. The unique nature along with mutants of this virus has put the entire world at risk of causing mild, moderate to severe forms of the disease.

The finding of the mortality rate of COVID-19 may be a challenge. However, other pandemics were equally deadlier, such as the H1N1 flu pandemic in 2009, during

which the estimated cases were 0.7–1.4 billion; and the estimated death was 151,700–575,400 (~0.05%). During the typical seasonal flu, every year 340 million –1 billion people are infected, and the estimated death is 290,000–650,000/year (<0.1%). HIV/AIDS has led to approximately 37.9 million deaths globally. The Middle East respiratory syndrome (MERS), mortality rate over 35%. Ebola pandemic 2014, mortality rate over 50%.

In the context of Nepal, prediction of both prevalence and mortality rate seems difficult, making it an epidemiological challenge. The communicable nature of this disease along with the various challenges in mass vaccination has made us adhere to stringent public health measures such as social distancing, wearing of face masks, and maintaining hand hygiene to control the spread of disease.

There are certain herbs, spices, and other traditional home remedies, which have been considered to boost the immune system as well as combat the mild form of COVID-19. However, these preparations would put us at health risk, since the evidence regarding such therapies is low.