

COVID-19 Challenge to the Medical Sciences in the 21st Century

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Nobody imagined we, the ever so advanced human beings would see the modern era of the developed world stand still helplessly, yet here we are, witnessing the world pause in despair. All these years, the proud human beings became so consumed with materialistic possessions and achievements; they built skyscrapers, conquered the moon, made missiles and atom bombs that could destroy the world in seconds and so much more that they felt they are the most powerful ones and have everything under control. But little did they know, that is a mere illusion. Nobody is powerful than the mother nature. Today, our lives are at risk due to a virus, that can't even be seen with our naked eyes. From global warming to current pandemic, everything is brought upon us by our own activities and life choices.

In mid 1960s, Human corona virus was first identified. Seven known types of corona viruses are identified till date, in which first four cause mild to moderate respiratory infection of self-limiting types, while the severe acute respiratory syndrome coronavirus (SARS) and Middle East respiratory syndrome (MERS) viruses cause severe respiratory infection. Several cases of pneumonia of unknown cause were seen in the Hubei province of China on December 31, 2019. The infection was soon identified as a new kind of coronavirus, first named novel coronavirus, and later named coronavirus disease (COVID-19) on February 11, 2020 by the World Health Organization.¹⁻⁴

Due to the contagious nature of the virus, the infection spread throughout the world rapidly. As the number of COVID-19 cases kept on increasing worldwide, WHO on January 30, 2020 declared the outbreak as 'Public Health Emergency of International Concern' and on March 11, 2020 declared it as 'Pandemic'.⁵

Surprisingly, in many countries, even with excellent healthcare system, Covid-19 cases proliferated, followed by numerous deaths. Hence, this pandemic has taught developing nations such as Nepal a lesson

regarding the importance of adequate planning and preparation to deal effectively with future emergencies. Such situations are best managed through effective coordination among the federal, provincial and local governments along with hub and satellite hospitals. At present, social distancing has proven to be effective, but prolonging the lockdown can increase poverty, mental illness and social inequality. Furthermore, public healthcare systems are under severe pressure as COVID-19 pandemic continues and the government is unable to address other diseases, resulting in future long-term health concerns. Proper hand-washing, staying at home and maintaining social distance are proven to be the most effective preventive measures, and are immediate solutions to save human beings from this unseen enemy.⁶

Prior to COVID-19 pandemic in developing nations, there already existed imbalance between population health demand and resources, where high population demand exceeded the limited resources with low number of skilled health professionals and medical educators. The COVID-19 pandemic has required medical educators across the world to deal with the huge responsibility of rethinking how they can continue to deliver high quality medical education at a time when medical schools are avoiding in-class lectures due to social isolation strategies and educators have to cope with their enormous clinical responsibilities.⁷ This pandemic has shifted our usual in-class medical education system to online classes and webinars, and even changed our examination system into virtual way wherever possible.

As medical issues become increasingly globalized, healthcare professionals face new obstacles. Global problems require global solutions, and modern-day doctors must master collaboration across different countries and different disciplines. In the current digital era, the general public receive a lot of medical information from unreliable sources, particularly

through “click-bait” headlines and posts shared via social media. COVID-19 has led to widespread transmission of information across these channels, spreading both useful and harmful messages.

Nepal shares its borders to the North with China, where the disease was first identified and in the Southeast region with India where the cases of COVID-19 are growing most rapidly in the region. The first case of COVID-19 was confirmed in Nepal on January 24 in a 32-year-old student who returned from Wuhan, China and completely recovered by the end of January. To overcome this problem, Nepal Government commenced an immediate lockdown on March 24, 2020, which remained in force until 14 June 2020. In addition to this, several public health measures such as social distancing, hand washing, proper use of masks and hand sanitizers, mass awareness via audiovisual aid, TV, radio, distribution of Information Education and Communication (IEC) materials, etc. have also been introduced.

It remains a challenging task for the government to modify the lockdown modality and resume economic activities that would find a balance between control of COVID-19 transmission and ensuring the livelihood of the poor and marginalized people. The same modality of lockdown for almost three months and the unsafe migration in the border areas resulted in poor implementation of the lockdown that favored the COVID-19 transmission.

The pandemic has upended the lives of people as major health facilities are closed, borders are sealed, schools are closed and businesses are shut, resulting in a global public health challenges: hundreds of thousands of deaths, hunger and co morbid condition as a result of being jobless , world economy downfall and depleted resources. Although research and trials are being performed by scientists to find a treatment or vaccine for COVID-19, developing countries like Nepal rely on ongoing public health measures. Nepal is handling a pandemic situation for the first time and it is evident that the country’s present public health system is not equipped to deal with the issue. However, when threat is uncertain and continuous, as in the current coronavirus disease (COVID-19) pandemic, fear can become chronic and burdensome.⁸

Various public health measures include encouraging the use of personal protective equipments such as

mask, face shield, gloves etc and preventive measures like frequent hand washing, use of sanitizers, restricting international travel, suspending all training and educational activities from kindergartens to universities, and banning major public gatherings.

The best preventive measure is to avoid exposure. In addition, anyone who has been in contact with infected person should be subjected to mandatory quarantine. Modern medicine is gearing up to fight the new coronavirus pandemic. The key is a holistic approach to the patient including, primarily, the use of personal protective equipment to reduce the risk of further virus transmission, as well as patient management, which consists in both quarantine and, in the absence of specific pharmacological therapy, symptomatic treatment. To overcome this problem we have to rethink, rebuild and research by humanistic and holistic approach

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