

Importance of preventive measures in tackling COVID -19

Abstract

Coronavirus disease (Covid-19) is an acute respiratory disease caused by novel Coronavirus originated from Wuhan, China and has received worldwide attention creating havoc and fear in the whole world. It was reported by WHO office in China on 31st December 2019 as viral pneumonia in Wuhan and later on named it as Covid-19. It has been confirmed in at least 188 countries and territories. WHO officially declared it pandemic in January 2020. Based on past experiences with different epidemics and pandemics, as well as the current understanding of SARS-CoV-2, it is recommended now that frequent hand washing with an alcohol-based hand rub or soap and water, avoid touching eyes, nose, and mouth, and practicing respiratory hygiene could prevent the possibility of the infection. The practices like social distancing which include avoiding any form of contact with people; either through greetings, hugging or shaking of hands and large gatherings were also recommended. Furthermore, Veterinary health care workers should adhere strictly to the standard preventive measures while continuing to provide critical health care to the animals which include, maintaining social distancing, avoid contact with animal items, dead or alive animals, wearing of Personal Protective Equipments (PPEs) during the treatment of animals and proper disposal of animals and hospital wastes so that the staff, as well as animal owners could be safe. Similarly, health care workers of human medicine should also adhere strictly to the standard preventive measures like avoiding any form of direct contact with people; either through greetings, hugging or shaking of hands and large gatherings, avoid undue contact with infected items, dead or alive persons, wearing of Personal Protective Equipments (PPEs) during the treatment of sick people and handling of dead bodies. In this review the authors are trying to stress upon the pivotal role of preventive measures as there is no treatment for this novel virus till now and thus combinations of preventive strategies can alleviate the spread of this contagious disease till the vaccine is made.

Keywords: coronavirus disease, preventive measures, vaccine, alive persons, dead bodies, pivotal role

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Introduction

Coronaviruses (COVs) are a large family of ssRNA viruses that causes a range of illnesses from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS) in humans. While in case of cattle, canines and pigs they can cause diarrhea, likewise in chickens they can cause an upper respiratory tract infection. Coronavirus belonging to coronaviridae family, order Nidovirales are enveloped viruses with a positive-sense single-stranded RNA genome and a nucleocapsid of helical symmetry.¹ COVs are divided into Corona virus α , β , γ and δ coronavirus, α and β coronaviruses only infect mammals. In humans the different CoVs are α coronaviruses, β -coronaviruses, the Middle East respiratory syndrome-related coronavirus (MERS-CoV), severe acute respiratory syndrome-related coronavirus (SARS-CoV) and recently diagnosed disease Covid-19.² Coronavirus disease 2019 (COVID-19) is caused by a severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2)³ which was first identified in December 2019 in Wuhan, China, and has lead to the ongoing pandemic.^{4,5} As of now it has been reported now in over 188 countries and territories, resulted in huge number of causalities.⁶

As far we have come across 21st century, it doesn't mean that only time has elapsed but it means a lot as with the passage of time the world has faced many pandemics and epidemics like, SARS-COV, Spanish flu pandemic, Zika virus epidemic, Kivu Ebola epidemic, Nipah virus outbreak in Kerala, dengue fever epidemic. The Spanish

flu (1918 flu pandemic) was an unusually deadly influenza pandemic lasted February 1918 to April 1920, causing death in four successive waves, between 17 million and 50 million people, making it one of the deadliest pandemics in human history.⁷ Due to SARS at the end of the epidemic in June 2003, the incidence was 8,422 cases and the case fatality rate was 11%.⁸ Likewise, other epidemics and pandemics have also lead to the heavy causalities besides other economic burdens. The social impacts of pandemics/epidemics were severe, like, travel was strictly limited, school closing, markets and sporting were closed besides heavy morbidity and mortality. So these outbreaks remind us that we thrive in an environment where it is obligatory to respect the relationship between animal, social life, and the environment to survive. The hasty urbanization and our infiltration into forest lands, has created a new interface between humans and wildlife; and exposed humans to unfamiliar organisms often involving the consumption of exotic wildlife. So there is dire need to understand the message that nature wants to give us, which is to recognize the relationship between animals, humans and environment. The trans-disciplinary One Health approach involving specialists from numerous disciplines such as medicine, veterinary, environmental health, and social sciences should be encouraged to limit new infectious outbreaks.

Preventive measures

Researchers worldwide are working round the clock to develop the vaccine against SARS-CoV-2 but the experts estimate that a fast-tracked vaccine development and a successful candidate to

market shall be available in months if the process goes smoothly from conception to market availability.⁹ So there is the dire need of prevention for the disease till the vaccine is available in the market. Due to the disastrous effects of epidemics and pandemics, millions of people lost their lives, the life which really matter. The lives which could have been saved to much extent if preventive measures would have been taken appropriately and at right time. Right now, we are fighting against the COVID-19 which has shown its worst effects taken lakhs of lives, leaving people scream for their loved ones. It does not show partiality between a sinner and a good deed person as the occurrence and development of the illness depends on the interaction between the virus and the individual's immune system and viral load.¹⁰ So there is a need to make the precautionary measures as daily soap. Also we have to learn from the mistakes which other countries/people did before, and resulted in the heavy casualties. They became lenient towards the corona virus as they were elated on their dynamic health care system. In contrast to them our health care system stands nowhere, and if we become lenient and the worst effect will be on the common people. Tragically, the heaviest burden of infectious diseases falls on the poorest and to the least developed countries of the world. So let's unite and strictly follow precautionary measures to save our precious life as enlisted below:

- a. Wear masks while going outdoors, the utility of masks during the Covid-19 pandemic is universally recognized as a crucial step to tackle the ongoing pandemic. Ngonghala et al.¹¹ documented that the use of effective face-masks (such as surgical masks, with estimated efficacy $\geq 70\%$) in mass could lead to the elimination of the pandemic if at least 70% of the inhabitants of New York State use such masks in masses consistently (nationwide, a compliance of at least 80% will be required using such masks), and the use of low effective masks, such as cloth masks (efficacy less than 30%), could also lead to substantial reduction of COVID-19 burden (albeit, they are not able to lead to elimination). Gupta¹² has wrote that as per the group of experts, plastic face shields may do a better job at protecting against COVID-19 than cloth, homemade face masks may protect against sneeze and cough droplets from an infected person. She has also written that according to the Dr Eli Perencevich (Infectious Disease Physician at the University of Iowa), face shields can be quickly and affordably produced and can significantly reduce the transmission of COVID-19, especially when combined with other practices such as social distancing, quarantine, and contact tracing.
- b. Regularly and thoroughly clean your hands with an alcohol-based hand rub or wash them with soap and water for at least 20 seconds (WHO).
- c. Maintain at least 2 metre (6 feet) distance between yourself and others
- d. Avoid going to crowded places (WHO)
- e. Avoid touching eyes, nose and mouth (WHO)
- f. Must make sure, we, and the people surrounding us, follow proper protocol of pandemic experts. This implies during coughing or sneezing you must need to cover your mouth and nose with your bent elbow or tissue. Then dispose off the used tissue immediately and wash your hands (WHO).
- g. We should follow government advices
- h. We should stay at home and thus remain safe, and in case we observe minor symptoms such as cough, headache, mild fever, we should self -isolate ourselves until we recover and should

seek medical attention, if we have a fever, cough and difficulty breathing.

- i. Keep ourselves up to date on the latest information from trusted sources, such as WHO or our local and national health authorities (WHO).
- j. Regular exercise should be done to keep ourselves fit. Klok et al.¹³ documented that the COVID-19 may predispose to both venous and arterial thromboembolism due to excessive inflammation, hypoxia, immobilisation and diffuse intravascular coagulation. So we should do some exercises and walking at home regularly as participating in sports activities on a regular basis decreases the risk of venous thrombosis.¹⁴
- k. There is also need to communicate the facts of Covid-19 and repercussions of not following the precautions, to impart the education to children, young people who are global citizens, powerful agents of change and next generation caregivers, doctors and scientist and can act as education advocates for the Prevention of pandemic like this. At the same time there is need to implement telemedicine so that there are lesser visits to hospitals and also online learning should be protracted for months.

Those who get the symptoms of the COVID-19 (common symptoms include fever, cough, fatigue, shortness of breath, and loss of smell and taste) or have the contact history with COVID-19 positive person should get self-isolate for around 14 days and also should contact the concerned Govt. Agencies.

Conclusion

In conclusion, the world has a long history of successful efforts to prevent or cure widespread infections. World has the opportunity to reverse disease predictions with strict preventive measures. These preventive interventions will be effective in reducing peak incidence and its impact on public services. Smart working and recommended shifts may have to be adopted to mitigate COVID-19 transmission in the future. Digital didactic and online learning can be protracted for months. Telemedicine, both in veterinary and medical sciences, needs to be implemented. In addition, efficient diagnosis, rapid isolation, and clinical management should remain utmost important.

If we don't go through protocol of pandemic experts would mean, we are giving full permission to Corona virus to destroy further more lives. Believe us it's not too late. This is a time being thing. After this dark night a bright day will come.

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Conflicts of interest

The authors declare there are no conflicts of interest.

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