

# COVID-19 Pandemic in Nepal: A Threat to Low Resources Countries

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## BACKGROUND:

At present, the worldwide people are facing a pandemic caused by a novel coronavirus named severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) that caused coronavirus disease 2019 (COVID-19), the third disease from a coronavirus family to cause a pandemic.<sup>1</sup> Before this the virus from same family caused severe acute respiratory syndrome (SARS) and Middle East respiratory syndrome (MERS).<sup>2</sup> The virus which spreads through the respiratory route, caused a range of ailments including very mild cases, was well spread between humans with an epidemic doubling time of about a week, and was underhandedly spreading for at least 6 weeks.<sup>3</sup> Keeping mortality as low as possible will be the highest priority for individuals; hence governments must put in place measures to enhance the inevitable economic downturn.<sup>4</sup> Like various previous pandemic disease, isolation, quarantine and sanitations methods have to be followed otherwise this devastating ailment will claim huge number of populations.<sup>5</sup> Till now we are not much aware on the case fatality rate (CFR), the state of the natural history of the disease that the infection starts, the numbers of asymptomatic cases, and the duration of the infectious period for COVID19.<sup>4</sup> The government' communication strategies to keep the public informed of how best to avoid infection are vital and the individuals response to advice on how best to prevent transmission will be as important as government actions.<sup>4</sup>

**Keywords:** COVID-19 Pandemic, Low Resources Country, Nepal

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## SCIENTIFIC KNOWLEDGE TILL THE DATE

Person-to-person transmission occurs through droplet or contact transmission and if there is a lack of rigorous infection control or if no proper personal protective equipment is available, it may endanger the first-line healthcare workers. To promptly identify cases and prevent further spreading, physicians should be aware of the travel or contact history of the patient with compatible symptoms.<sup>6</sup> WHO reported four classifications: (1) no cases: Countries/territories /areas with no confirmed cases; (2) sporadic cases: Countries/territories/areas with one or more cases, imported or locally detected; (3) cluster of cases: Countries/territories/areas experiencing cases, clustered in time, geographic location and/or by common exposures; (4) community transmission: Countries/area/ territories experiencing larger outbreaks of local transmission.<sup>7</sup> As per the WHO classification, Nepal is still in the stage of “Clusters of cases” category.<sup>8</sup>

COVID-19 is shown using a subdivided illustration of the disease where individuals can fall under one of the following states: Susceptible (S), Latent (L), Infectious (I) and Removed (R). COVID-19 is shown using a subdivided illustration of the disease where individuals can fall under one of the following states: Susceptible (S), Latent (L), Infectious (I) and Removed (R). Susceptible individuals can acquire the virus through contacts with individuals in the infectious compartment, and become latent, meaning they are infected but cannot transmit the infection yet. Latent individuals progress to the infectious stage with a rate inversely proportional to the latent period, and infectious individuals’ progress into the removed stage with a rate inversely proportional to the infectious period. The sum of the mean latent and infectious periods defines the generation time. Removed individuals represent those who can no longer infect others, meaning they were isolated, hospitalized, have recovered, or died.<sup>9</sup> Travel restrictions to COVID-19 affected areas along with other transmission-reduction interventions (quarantine for suspected, isolation in case of infected, and public health measures [social distancing,

hand hygiene, community containment and use of masks] will provide the utmost benefit to mitigate the pandemic.<sup>9,10</sup> The efforts of international health authorities have since focused on rapid diagnosis and isolation of patients as well as the search for therapies able to counter the most severe effects of the disease.<sup>11</sup> The COVID - 19 hospitals were requested to do the following: (1) create cohort ICUs for COVID-19 patients,; (2) organize a triage area where patients could receive mechanical ventilation if necessary in every hospital; (3) establish local protocols for triage of patients with respiratory symptoms; (4) ensure that adequate personal protective equipment (PPE) for health personnel is available; and (5) report every positive or suspected critically ill COVID-19 patient to the concerned authorities.<sup>12</sup>

## INTERNATIONAL ACTION

WHO declared COVID-19 as the sixth public health emergency of international concern on 30 January 2020. It is spread by human-to-human transmission via droplets or direct contact, and infection has been estimated to have mean incubation period of 6.4 days and a basic reproduction number of 2.24–3.58 days. Among patients with pneumonia caused by SARS-CoV-2, fever was the most common symptom, followed by cough, sore throat and headache. Bilateral lung involvement with ground-glass opacity was the most common finding from computed tomography images of the chest. Currently, controlling infection to prevent the spread of SARS-CoV-2 is the primary intervention being used. However, public health authorities should keep monitoring the situation closely, as the more we can learn about this novel virus a its associated outbreak, the better we can respond.<sup>1,13</sup>

## WAY FORWARD IN NEPAL

Nepal is a landlocked country in South Asia bordered by China to the north, and India to the south, east and west.<sup>14</sup> The first positive case of COVID-19 in Nepal was reported on January 13, 2020, in a 32-year-old Nepalese student who returned to the country from Wuhan University of Technology, China with no known comorbidities.<sup>15</sup> Most of the positive cases at present are those who travelled from abroad and their contacts.<sup>16</sup>

As we know there is no treatment for most of the viral diseases and vaccination is only the appropriate way to curb the pandemic. Physical distancing is the best measure for now as well as community outreach for proactive testing with deployment of public health workers and the use of technologies to spread awareness about the preventive measures and to dispel the fears, and rumors can be the auspicious interventions. For this, health care workers and policymakers as well as the general public require a strong collaborative position to work together to integrate the measures ahead to prevent the COVID-19 in Nepal.<sup>17</sup> A channelizing primary health system needs to be reinforced COVID-19 and past outbreak scenarios should be a learning experience for Nepal not only on emergency management but also towards developing a strong surveillance system and taking preventive actions for similar events in the future.<sup>18</sup> The COVID-19 response plan has been activated and is currently the best prepared institution to manage this pandemic.<sup>19</sup> Quarantine and lockdown, combined with restriction to the movement of people, along with measures like universal use of masks, physical distancing, tracking, testing, isolation and specialized centers to manage COVID-19 patients, have been successful in the control and spread of the virus.<sup>20</sup> Health information and intelligence are important components of health care system ceaselessly as well as during outbreaks management. Collecting right information at right time and delivering it to right target at right time is important during outbreaks.<sup>21</sup> As revealed by Wang et al. in 2020, female gender, student status, specific physical symptoms (e.g., myalgia, dizziness, coryza), and poor self-rated health status were significantly associated with a greater psychological impact of the outbreak and higher levels of stress, anxiety, and depression.<sup>23</sup> The psychologically at risk group of people are to be targeted to prevent them from having most serious conditions by disseminating awareness activities. Specific up-to-date and accurate health information (e.g., treatment, local outbreak situation) and particular precautionary measures (e.g., physical distancing, hand hygiene, wearing a mask) were associated with a lower psychological impact of the outbreak and lower levels of stress, anxiety, and

depression.<sup>22</sup> Compared to those aged 30–59 years, those aged above 59 years were more likely to die after developing symptoms,<sup>23,24</sup> All the concerned should focus how the risky people be prevented from unnecessary exposure. Tele-health, or more specifically Tele-mental health services, are basically feasible and appropriate for the support of patients, family members, and health service providers during this pandemic.<sup>25,26</sup>

Hence, the strategy to use of resources should be based on ethical values, maximize benefits, prioritize health workers, do not allocate on a first-come i.e. first-served basis, be responsive to evidence, recognize research participation and apply the same principles to all Covid-19 as well as non-Covid-19 patients.<sup>27,28</sup>

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