MINI-REVIEW

COVID-19: the current situation in Nepal

B. Panthee[1,2], S. Dhungana[1,3], N. Panthee[1,4], A. Paudel[1], S. Gyawali[1] and S. Panthee[1]

1) *Sustainable Study and Research Institute, Balaju, Kathmandu,* 2) *Patan Academy of Health Sciences, School of Nursing and Midwifery, Lalitpur,* 3) *Department of Psychiatry and Mental Health, Tribhuvan University Teaching Hospital and* 4) *Department of Cardiac Surgery, Sahid Gangalal National Heart Center, Kathmandu, Nepal*

Abstract

The recent global pandemic of novel coronavirus disease 2019 (COVID-19) is increasingly alarming. As of 21 June 2020, there are more than 8.7 million cases worldwide, with 460 000 deaths. Nepal is not an exception to COVID-19 and is currently facing a challenge to prevent the spread of infection. The analysis of the detected cases, severity and outcomes of the cases within a country is important to have a clear picture of where the pandemic is heading and what measures should be taken to curb the infection before it becomes uncontrollable. We collected data regarding all the cases, recoveries and deaths attributed to COVID-19 in Nepal starting from the first case on 23 January to 21 June 2020. At present, COVID-19 has spread all over Nepal, with a rapid increase in the number of new cases and deaths, which is alarming in a low-income country with an inadequate healthcare system like Nepal. Although the government implemented early school closure and lockdown, the management to contain COVID-19 does not appear to be adequate. Understanding the current situation regarding COVID-19 in Nepal is important for providing a direction towards proper management of the disease.

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Corresponding authors: B. Panthee and S. Panthee, Sustainable Study and Research Institute, Kathmandu-16, Balaju, Nepal.
E-mails: bimalapanthee@pahs.edu.np **(B. Panthee),** supanthee@gmail.com **(S. Panthee)**

Introduction

Coronavirus disease 2019 (COVID-19) is an infectious disease caused by the newly discovered severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) [1]. The date of symptom onset in the first patient identified in Wuhan, China, was 1 December 2019 [2]. After the official notice regarding COVID-19 was received by the World Health Organization (WHO) on 31 December 2019, the WHO and the global community have been working continuously to contain this disease, which quickly became a global pandemic. Although the initial increase of cases was gradual, a recent drastic surge in the number of cases reflects the speed of transmission from person to person. For instance, the number of confirmed cases was 282 by 20 January 2020 [3], whereas as of 21 June 2020 there were more than 8.7 million cases with more than 460 000 deaths [4].

First case to local transmission in Nepal

The first case in Nepal was detected on 23 January 2020 in a patient who had returned from Wuhan, China [5,6] (Table 1). The diagnostic approaches in Nepal were not established at that time, so the sample had to be sent overseas for testing in order to make the first diagnosis. Once the first case was detected, the government of Nepal has been working on minimizing the spread and impact of the disease. The initial response was to disseminate information via public broadcasts, including caller tunes on cell phones [7]; to train the frontline healthcare workers; and to set up a domestic testing system by establishing central and local

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TABLE 1. COVID-19 cases diagnosed until start of local transmission

Case no.	Diagnosed date (2020)	Arrival in Nepal (2020)	Province	Remarks
1	23 January	Wuhan: 9 January	Bagmati	
2	23 March	France: 17 March	Bagmati	Shared flight with 5 and 6
3	25 March	UAE: 19 March	Bagmati	
4	27 March	UAE: 20 March	Sudurpaschim	
5	28 March	Belgium: 17 March	Gandaki	Shared flight with 2 and 6
6	1 April	Belgium: 17 March	Gandaki	Shared flight with 2 and 5
7	4 April	India: 25 March	Sudurpaschim	
8	4 April	India: 27 March	Sudurpaschim	
9	4 April	—	Sudurpaschim	Local transmission, contact with case 4

Source: Government of Nepal situation reports [8].

testing laboratories. By 19 March 2020, when Nepal had no active cases, Nepal closed all the schools. This indicated the government's commitment to contain the disease at an early stage. Despite these efforts, 2 months after the first case, a second case was diagnosed through domestic testing on 23 March on a returnee from Europe. In response to this, Nepal decided to close its international borders and imposed a national-level lockdown until 14 June 2020 (74 days). In addition, the government established a COVID-19 crisis management system advised by experts from various sectors and focused on setting up temporary hospitals, quarantine, isolation and intensive care unit beds in each province. The first local transmission was the ninth case, detected on 4 April 2020 (Table 1).

Sporadic transmission, recoveries and deaths

After the first local transmission, and with the increase in the testing facilities within the country, Nepal has seen a rapid increase in the number of cases, with a total of 9026 COVID-19 cases spread over all seven provinces covering 75 out of 77 districts as of 21 June 2020 (Fig. 1). Nepal has detected more than 200 cases per day consecutively since 1 June; even with the national-level lockdown, the number of infections is doubling in 10 days on average (Fig. 2(a)). Although the majority of diagnoses are being made at the quarantine centres where returnees are held, Nepal is continuously seeing a large number of cases with an unknown origin of transmission, which is alarming. Although the number of new infections is much higher than the number of recoveries, 1772 patients have recovered so far (Fig. 2(b)). Furthermore, there is a steady increase in the

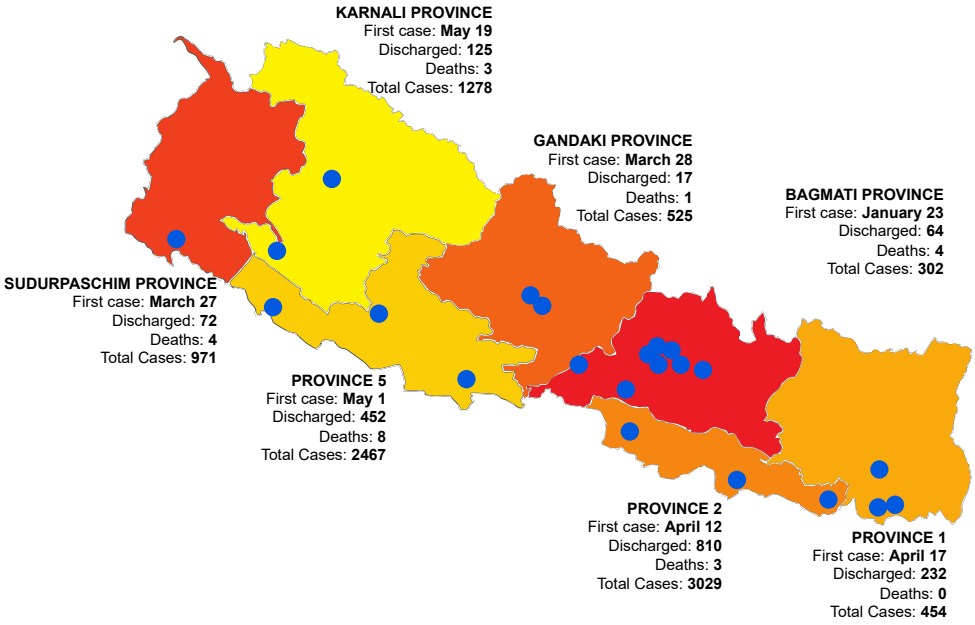

FIG. 1. Spread of coronavirus within Nepal. Shown is status of coronavirus infections in Nepal's seven provinces, coloured red to yellow based on chronology of first case appearance. Blue circle indicates coronavirus PCR testing laboratories, which are distributed in all provinces. Total number of test labs in Nepal is 22. Data extracted from Government of Nepal [8] and current as of 21 June 2020.

number of deaths attributed to COVID-19. The first death on 16 May 2020 included a 29-year-old new mother with an unknown mode of origin of transmission, and as of 21 June, there were 23 fatalities. Surprisingly, in the majority of the deaths, people died outside of hospitals, and COVID-19 was confirmed after death.

Current situation of healthcare and present challenges in Nepal

Thanks to significant achievements made in the healthcare sector of Nepal in recent decades, the current healthcare

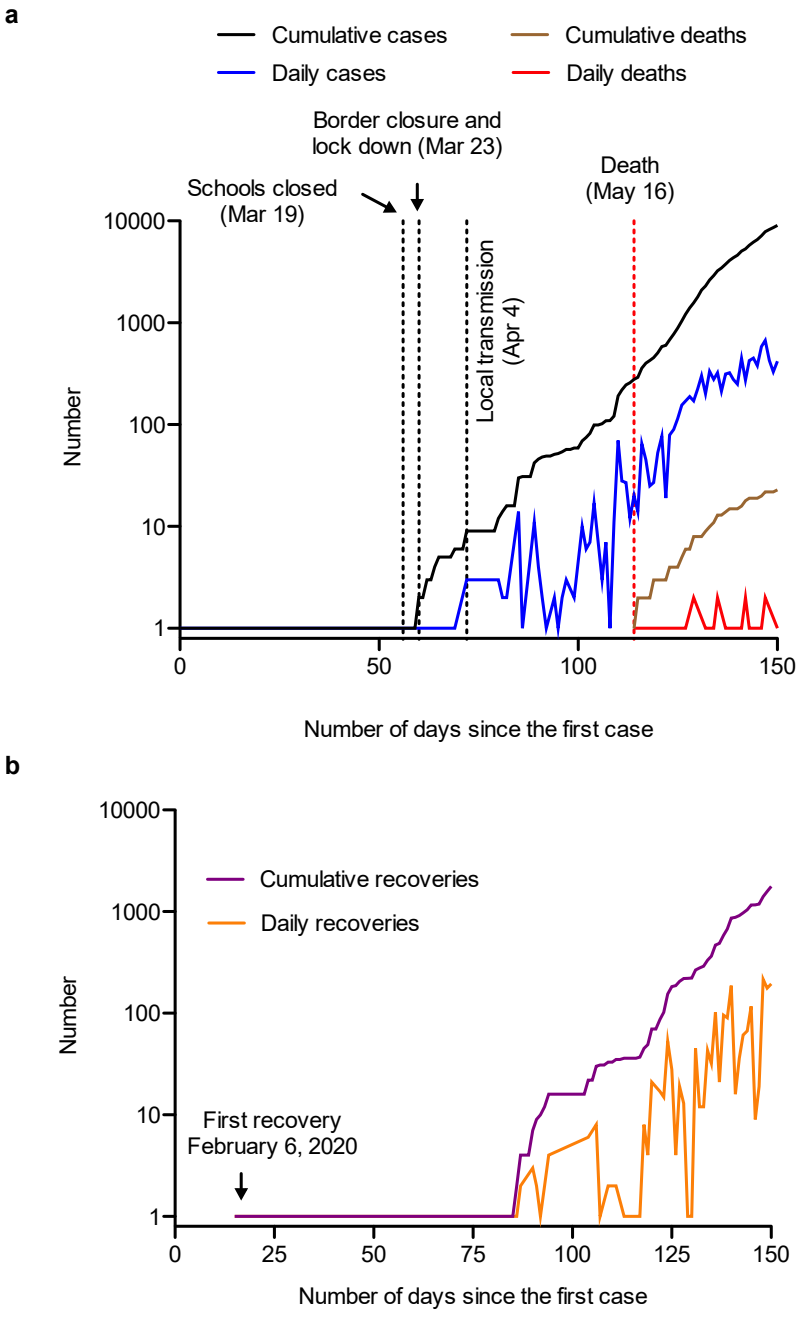

FIG. 2. Infection, death and recovery related to coronavirus disease 2019 (COVID-19) in Nepal. (a) Number of cases and deaths. (b) Number of recoveries. *X*-axis shows number of days since 23 January 2020, reported first case; *y*-axis, cumulative and daily number of cases, deaths or recoveries in log10 scale. Critical incidences are indicated by dotted lines. Data extracted from Government of Nepal [8] and current as of 21 June 2020.

situation is acceptable, as the major health problems of past decades—malaria, tuberculosis, diarrhoea, respiratory diseases, typhoid, chickenpox and tetanus—are either under control or on a downward trend [9]. However, because of the uncontrollable increase in COVID-19 cases, and because we are not fully prepared for immediate management of a huge number of people with a highly infectious disease with our inadequate budget allocation, a prompt and effective response to a highly infectious disease or a new pandemic is doubtful.

For the prevention of the spread of COVID-19, contact tracing and testing high-risk populations in the early stages of its spread is of utmost importance [10]. As the number of cases with unknown origins started surging, contact tracing became challenging and the designated quarantine centres started to become overwhelmed, after which the government requested self-isolation of all the people who were suspected to have COVID-19. Although the government communication strategies to keep the public informed of how best to avoid infection are vital [10], because of the lack of proper management and follow-up to check if people were strictly following the instructions, Nepal is finding it difficult to further stop the spread of cases in the community.

The WHO–China joint mission, led by experts from various countries, addressed the seriousness of COVID-19 on 24 February 2020, stipulating five recommendations: activate the highest level of national response management, community education, contact tracing, isolation and enhanced surveillance [11]. Nepal's initial actions to manage the disease were praiseworthy; however, the recent trend of the infection progression indicates that proper management is lacking, and much must be done to prevent uncontrolled community transmission. The aim at present is to reduce sporadic transmission, which is only possible with an expanded surveillance system to detect COVID-19 transmission chains by testing everyone with atypical pneumonia. We should increase the number of tests and trace as many cases as possible. Also, we should fully educate the general public on the seriousness of COVID-19 and their role in preventing its spread, as suggested by the WHO.

Crisis management, adaptation and infection mitigation

To respond to the crisis caused by the global COVID-19 pandemic, a coordinated effort across many sectors of society is necessary [12]. Because the treatment of COVID-19 only includes supportive therapies, attempts should be made to prevent its spread throughout society as much as possible. Government bodies should therefore be involved in the early detection, contact tracing and isolation of suspected individuals, whereas the public should be focused on following governmental guidance, including proper cough etiquette, regular handwashing and physical distancing. The severity of the restrictions should be based on the clusters of cases identified without neglecting the daily basic requirements of people's lives and well-being.

Elderly people and people with underlying disease have a higher risk of severe disease [13], which might require a longer hospital stay with ventilation assistance. Thus, people at high risk can reduce the risk of getting infected by following simple physical distancing and hygiene measures [14]. In a recent review on the effectiveness of quarantine measures during severe COVID-19, it was found that quarantine can reduce the incidence of infection by 44% to 81% and deaths by 31% to 63% [15]. Quarantine combined with other measures, such as avoiding gatherings, is more effective at reducing the spread of COVID-19 than quarantine alone. Thus, the combination of quarantine with other prevention and control measures shows the greatest effect in reducing transmission, incident cases and mortality.

Summary

Slowing the transmission of COVID-19 and protecting communities will require the participation of every member of the community. Misleading, ambiguous and false information can have serious negative public health consequences, including undermining adherence to physical distancing measures and movement restrictions [12]. In conclusion, it is important to take into consideration the notion that communities, including the most hard-to-reach and vulnerable groups, have a voice and are part of the response.

Conflict of interest

None declared.

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