## UNIVERSITY<sup>OF</sup> BIRMINGHAM

# University of Birmingham Research at Birmingham

### The second wave of COVID-19 hits Nepal

Uwishema, Olivier; Abbas, Kirellos Said; Torbati, Tania; Abdelrahman, Gana Hamed; Ajagbe, Abayomi Oyeyemi; Tariq, Rabeet; Sleiman, Hadi; Akın, Burak Talha; Onyeaka, Helen; Jain, Shubhika

DOI:

10.1002/hsr2.371

License:

Creative Commons: Attribution (CC BY)

Document Version

Publisher's PDF, also known as Version of record

Citation for published version (Harvard):

Uwishema, O, Abbas, KS, Torbati, T, Abdelrahman, GH, Ajagbe, AO, Tariq, R, Sleiman, H, Akın, BT, Onyeaka, H & Jain, S 2021, 'The second wave of COVID-19 hits Nepal: Burden for Nepal's healthcare system', *Health Science Reports*, vol. 4, no. 4, e371. https://doi.org/10.1002/hsr2.371

Link to publication on Research at Birmingham portal

#### General rights

Unless a licence is specified above, all rights (including copyright and moral rights) in this document are retained by the authors and/or the copyright holders. The express permission of the copyright holder must be obtained for any use of this material other than for purposes permitted by law.

- •Users may freely distribute the URL that is used to identify this publication.
- •Users may download and/or print one copy of the publication from the University of Birmingham research portal for the purpose of private study or non-commercial research.
- •User may use extracts from the document in line with the concept of 'fair dealing' under the Copyright, Designs and Patents Act 1988 (?)
  •Users may not further distribute the material nor use it for the purposes of commercial gain.

Where a licence is displayed above, please note the terms and conditions of the licence govern your use of this document.

When citing, please reference the published version.

Take down policy

While the University of Birmingham exercises care and attention in making items available there are rare occasions when an item has been uploaded in error or has been deemed to be commercially or otherwise sensitive.

If you believe that this is the case for this document, please contact UBIRA@lists.bham.ac.uk providing details and we will remove access to the work immediately and investigate.

Download date: 29. May. 2023

#### CORRESPONDENCE

Check for updates

## The second wave of COVID-19 hits Nepal: Burden for Nepal's healthcare system

#### **CORRESPONDENCE**

After a relative plateau state of new COVID-19 cases between December 2020 and April 2021, Nepal is now facing a noticeable increase in the curve of new-onset COVID-19 incidents. As of June 28, 2021, Nepal has recorded about 633.679 confirmed COVID-19 cases since the start of the pandemic. The number of confirmed cases has nearly tripled through the period from May 1 to June 28, 2021from 238.115 to 633.679. The average weekly new cases have reached 12.623, with 283 deaths per week in June 2021. This peak overreached to the experiences observed in October and June 2020, not only in numbers but also in disease severity. Of note, the second wave appeared after the emergence of a new COVID-19 variant in India, intensifying the fear of repeating the Indian scenario in Nepal. Following the entrance of the UK variant of concern in Nepal and given that Nepal shares an open border with India, Ranjit et.al strongly advised authorities in Nepal to expand vaccination and to use diverse biotechnological vaccines in order to help control the spread of COVID-19 variants. Unfortunately, till June 28, 2021, only 2.62% of Nepal's total population is vaccinated against COVID-19, posing greater susceptibility and reduced protection against infection for the individuals of Nepal. In this letter, we will review the COVID-19 situation in Nepal from various perspectives.

Preliminary to the emergence of COVID-19 in Nepal, which has a population of 28.087 million people, Nepal has faced an evident scarcity of healthcare workers, including medical doctors, nurses, and paramedics. In particular, healthcare workers have represented only 0.315% of the population since September 2016. Based on governmental data, intensive care beds are available for 1395 people while ventilators are accessible to only 480 individuals, for both COVID-19 and non-COVID-19 infected patients.3

The clinical presentations of tuberculosis (TB) and COVID-19 demonstrate many commonalities, and given the endemicity of TB in Nepal, medical suspension regarding both differential diagnoses has drastically heightened. However, although TB and COVID-19 present similarly in a clinical setting, minute differences exist as COVID-19 infection has been shown to occur with a shorter duration of disease than TB. Rapid diagnosis of cases and treatment becomes even more difficult in the light of the COVID-19 pandemic as seen in other countries.4-9

India, a prominent neighbor of Nepal, serves as one of the aboriginal countries for TB manifestation, and disease-positive outcomes from COVID-19 infection do not eradicate the feasibility and probability of resulting TB. Notably, latent TB infection can lead to severe pneumonia in COVID-19 patients, increasing the risk of mortality. The central TB Nikshay (Ni = End, Kshay = TB) portal of the Government of India disclosed that diagnosis of new TB cases has decreased by about 78% from 156 000 cases in April 2019 to 34 342 incidents on April 27, 2020 due to challenges imposed by lockdown restrictions in accessing directly observed therapy centers by medical practitioners and sick individuals with TB. 10 As such. scientific studies have warned against overlooking TB during the COVID-19 pandemic, especially in the currently aggressive second wave.

The lockdown has also brought about destructive social impacts, including unemployment, increased poverty, amplified inaccessibility to healthcare, and food unavailability leading to undernutrition. 11 Other major societal concerns include lack of access to maternity health, negative effects on education, reduced surveillance of routine immunization in children, increased domestic abuse, and inadequate obtainable medication. 4,12 In addition, the prevalence of mental health issues such as anxiety, depression, and stress has escalated significantly.<sup>5,13</sup> Closure of health services coupled with the lack of awareness, misinformation, and stigma associated with COVID-19 have instigated limited affordability and fears of COVID-19 transmission that further contribute to healthcare deficits. 6,14

Just as the government began easing out of lockdown restrictions and reopening of factories, the increase in COVID-19 cases in Nepal from India has triggered an alarming concern among the people of Nepal regarding newly implemented lockdown regulations accompanying this second wave. In particular, such guidelines have left harsh effects on the economy. According to scientific literature, Nepal witnessed a negative economic growth of 1.99% last year alone. In addition, the Central Bureau of Statistics has reported that over 1.2 million people moved below the poverty line, and 1.5 million others became unemployed, of which 640 000 were migrant workers, and the rest were jobholders. 15 Moreover, 10.89% of manufacturers remain closed.16

According to WHO, Nepal ranks as third among Southeast Asian countries for new COVID-19 incidents, with a 137% increase of

This is an open access article under the terms of the Creative Commons Attribution License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited.

© 2021 The Authors. Health Science Reports published by Wiley Periodicals LLC.

newly reported cases,<sup>17</sup> which is extremely worrisome as Nepal is a low-income country with a fragile healthcare system.<sup>18</sup> It is recommended that the healthcare system's financing and capacities should afford more flexibility to adapt to emergencies. Furthermore, strengthening and establishing partnerships between private and public sectors and the government are needed. The recruitment process of healthcare workers and other human resources should be organized and thoroughly financed through a long-term plan that also helps to diminish the spread of COVID-19 infection, provides attention to other diseases like TB, and prevents further economic injury. Considering the aforementioned information, government, healthcare institutions, physicians, and patients are urged to function with mutual coordination and understanding to enhance the reception of advantageous health services.<sup>3,7</sup>

#### **ACKNOWLEDGEMENT**

None

#### **FUNDING**

We have not received any financial support for this manuscript.

#### CONFLICT OF INTEREST

The authors declared no conflicts of interest.

#### **AUTHOR CONTRIBUTIONS**

Conceptualization: Olivier Uwishema Project administration: Olivier Uwishema

Writing—Original Draft Preparation: Olivier Uwishema, Kirellos Said Abbas, Tania Torbati, Gana Hamed Abdelrahman, Abayomi Oyeyemi Ajagbe, Rabeet Tariq, Hadi Sleiman, Burak Talha Akın, Helen Onyeaka, Shubhika Jain

Writing—Review and Editing: Olivier Uwishema, Tania Torbati, Helen Onyeaka

All authors have read and approved the final version of the manuscript.

#### **DATA AVAILABILITY STATEMENT**

Not Applicable.

#### **ETHICS APPROVAL**

Not Applicable.

Olivier Uwishema<sup>1,2,3</sup>

Kirellos Said Abbas<sup>4</sup>

Tania Torbati<sup>5</sup>

Gana Hamed Abdelrahman<sup>6</sup>

Abayomi Oyeyemi Ajagbe <sup>7</sup> 🕞

Rabeet Tariq<sup>8</sup>

Hadi Sleiman<sup>9</sup>

Burak Talha Akın<sup>3</sup>

Helen Onyeaka<sup>10</sup>

Shubhika Jain<sup>11</sup>

<sup>1</sup>Research and Education, Oli Health Magazine Organization, Kigali, Rwanda

of the Pacific, Pomona, California, USA

<sup>2</sup>Department of Research, Education and Projects, Clinton Global Initiative University, New York, New York, USA

<sup>3</sup>Faculty of Medicine, Karadeniz Technical University, Trabzon, Turkey
 <sup>4</sup>Faculty of Medicine, Alexandria University, Alexandria, Egypt
 <sup>5</sup>Western University of Health Sciences, College of Osteopathic Medicine

<sup>6</sup>Faculty of Medicine, Kafrelsheikh University, Kafr El Sheikh, Egypt

<sup>7</sup>Department of Anatomy, Faculty of Basic Medical Sciences, College of

Health Sciences, Nile University of Nigeria, Abuja, Nigeria

<sup>8</sup>Department of General Medicine, Liaquat National Hospital and Medical College, Karachi, Pakistan

<sup>9</sup>Faculty of Medicine, Yeditepe University, Istanbul, Turkey
<sup>10</sup>School of Chemical Engineering, University of Birmingham, UK
Birmingham, UK

<sup>11</sup>Department of General Medicine, Kasturba Medical College, Manipal,

#### Correspondence

Olivier Uwishema, Research and Education, Oli Health Magazine
Organization, Kigali, Rwanda.
Email: uwolivier1@ktu.edu.tr

#### ORCID

Olivier Uwishema https://orcid.org/0000-0002-0692-9027

Kirellos Said Abbas https://orcid.org/0000-0003-0339-9339

Tania Torbati https://orcid.org/0000-0002-9409-791X

Gana Hamed Abdelrahman https://orcid.org/0000-0001-6968-7056

Abayomi Oyeyemi Ajagbe https://orcid.org/0000-0002-2110-2626
Rabeet Tariq https://orcid.org/0000-0002-4281-7436
Helen Onyeaka https://orcid.org/0000-0003-3846-847X
Shubhika Jain https://orcid.org/0000-0002-8589-946X

#### **REFERENCES**

- Nepal COVID-19 Overview Johns Hopkins. Johns Hopkins Coronavirus Resource Center. https://coronavirus.jhu.edu/region/nepal
- Sah R, Khatiwada AP, Shrestha S, et al. COVID-19 vaccination campaign in Nepal, emerging UK variant and futuristic vaccination strategies to combat the ongoing pandemic. *Travel Med Infect Dis.* 2021;41: 102037. https://doi.org/10.1016/j.tmaid.2021.102037
- Neupane P, Bhandari D, Tsubokura M, Shimazu Y, Zhao T, Kono K. The Nepalese health care system and challenges during COVID-19. J Glob Health. 2021;11:03030. https://doi.org/10.7189/jogh.11.03030
- Uwishema O, Adriano LF, Torbati T, Onyeaka H. Measles crisis in Africa amidst the COVID-19 pandemic: delayed measles vaccine administration may cause a measles outbreak in Africa. J Med Virol. 2021;93:5697-5699. https://doi.org/10.1002/jmv.27150. Advance online publication.
- Uwishema O, Adriano LF, Chalhoub E, et al. Bird flu outbreak amidst COVID-19 pandemic in South Africa: efforts and challenges at hand. J Med Virol. 2021;93:5676-5679. https://doi.org/10.1002/jmv. 27124. Advance online publication.
- 6. Aborode AT, David KB, Uwishema O, et al. Fighting COVID-19 at the expense of malaria in Africa: the consequences and policy options.

- Am J Trop Med Hyg. 2021;104(1):26-29. https://doi.org/10.4269/ aitmh.20-1181
- 7. Aborode AT, Tsagkaris C, Jain S, et al. Ebola outbreak amid COVID-19 in the Republic of Guinea: priorities for achieving control. Am J Trop Med Hyg. 2021;104(6):1966-1969. Advance online publication. https://doi.org/10.4269/ajtmh.21-0228
- 8. Uwishema O, Adanur I, Babatunde AO, et al. Viral infections amidst COVID-19 in Africa: implications and recommendations. J Med Virol. 2021;1-5. https://doi.org/10.1002/jmv.27211 Advance publication.
- 9. Aborode AT, Dos Santos Costa AC, Mohan A, et al. Epidemic of plague amidst COVID-19 in Madagascar: efforts, challenges, and recommendations. Trop Med Health. 2021;49(1):56. https://doi.org/10. 1186/s41182-021-00349-5
- 10. Jain VK, Iyengar KP, Samy DA, Vaishya R. Tuberculosis in the era of COVID-19 in India. Diabetes Metab Syndr Clin Res Rev. 2020;14(5): 1439-1443. https://doi.org/10.1016/j.dsx.2020.07.034
- 11. Singh DR, Sunuwar DR, Adhikari B, Szabo S, Padmadas SS. The perils of COVID-19 in Nepal: implications for population health and nutritional status. J Glob Health. 2020;10(1):1-4. https://doi.org/10.7189/
- 12. Mahato P, Tamang P, Simkhada P, et al. Effects of COVID-19 during lockdown in Nepal. Europasian J Med Sci. 2020;2(2):105-10. https:// doi.org/10.46405/ejms.v2i2.91

- 13. Devkota HR, Sijali TR, Bogati R, Ahmad M, Shakya KL, Adhikary P. The impact of COVID-19 on mental health outcomes among hospital fever clinic attendants across Nepal: a cross-sectional study. Kotozaki Y, ed. PLoS ONE. 2021;16(3):e0248684. https://doi.org/10. 1371/journal.pone.0248684
- 14. Singh DR, Sunuwar DR, Shah SK, et al. Impact of COVID-19 on health services utilization in Province-2 of Nepal: a qualitative study among community members and stakeholders. BMC Health Serv Res. 2021; 21(1):174. https://doi.org/10.1186/s12913-021-06176-y
- 15. Magar A. Risk of second wave threatens economic revival. Nepal: The Himalayan Times; 2021. Accessed May 21, 2021. https:// thehimalayantimes.com/business/risk-of-second-wave-threatenseconomic-revival
- 16. Pandemic-battered economy is on the up. A second wave could dent recovery. 2021. Accessed May 21, 2021. https://kathmandupost. com/national/2021/03/23/the-pandemic-battered-economy-is-onthe-up-a-second-wave-could-be-devastating
- 17. World Health Organization. COVID-19 weekly epidemiological update 22. World Heathl Organization. 2021; (December):1-3. https:// www.who.int/docs/default-source/coronaviruse/situation-reports/ weekly\_epidemiological\_update\_22.pdf
- 18. Panthee B, Dhungana S, Panthee N, Paudel A, Gyawali S, Panthee S. COVID-19: the current situation in Nepal. New Microbes New Infect. 2020;37:100737. https://doi.org/10.1016/j.nmni.2020.100737