

ROMANIAN
NEUROSURGERY

Vol. XXXIV | No. 4 December 2020

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Robert Ahmed Khan,
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Global neurosurgery, Bangladesh and COVID-19 era. A perspective from a low-income country

Robert Ahmed Khan¹, Moshur Rahman²,
Amit Agrawal³, Ezequiel Garcia-Ballestas⁴,
Luis Rafael Moscote-Salazar⁴

¹ Neurosurgery Department, BSMMU, Dhaka, BANGLADESH

² Neurosurgery Department, Holy Family Red Crescent Medical College, Dhaka, BANGLADESH

³ Department of Neurosurgery, All India Institute of Medical Sciences, Bhopal, INDIA

⁴ Center for Biomedical Research (CIB), Faculty of Medicine, University of Cartagena, Cartagena, COLOMBIA

ABSTRACT

Background. COVID-19 has become an alarming pandemic for our earth. It has created panic not only in China but also in developing countries like Bangladesh. Bangladesh has adequate confinements to constrain the spread of the infection and in this circumstance, overall healthcare workers including neurosurgeons are confronting a ton of difficulties. The purpose of this paper is to depict the proficiency of Global neurosurgery in this COVID-19 time.

Method. Global neurosurgery offers the chance of fusing the best proof-based guidelines of care. This paper demonstrated that, in low to middle-income countries, Global medical procedure has been received to address the issues of residents who lack critical surgical care.

Results. Inappropriate and insufficient asset allotment has been a significant obstacle for the health system for decently giving security to the patients. The fundamental training process has been genuinely hampered in the current circumstance. Worldwide health activities have set to an alternate centre and Global neurosurgery as an assurance is slowed down.

Conclusion. This paper recommended that Global neurosurgical activities need to come forward and increase the workforce to emphasize surgical service.

COVID-19 pandemic has brought terrible impacts and vigorously affected medicinal services including the neurosurgical field.^{2,3} This pandemic has represented a challenge for all nations. The entire world is confronting this challenge which requires the engagement of all physicians, including neurosurgeons, to manage COVID-19 outcomes.⁴ ⁵ Although neurosurgery constitutes a small portion of this but still, its impact is significant in those requiring intervention. Thus, the concept

Keywords

global neurosurgery,
COVID-19,
low-income country



Corresponding author:
Moshur Rahman

Neurosurgery Department,
Holy Family Red Crescent Medical
College,
Dhaka, Bangladesh

dr.tutul@yahoo.com

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ISSN online 2344-4959
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Neurosurgery



First published
December 2020 by
London Academic Publishing
www.lapub.co.uk

of Global Neurosurgery was conceded to address the difference around the world in neurosurgical caregiving. But at present, the world is facing unprecedented effects of COVID-19. Even though pandemics have a worldwide extension, their impacts on the population are unbalanced.¹ The unequal distribution of health care services amongst different countries is the challenging world facing in the 21st century. Surgery has been identified as a major modifiable factor in saving millions of lives. Global surgery was thus introduced to address the issue of people who lack essential surgical care especially in low to middle-income countries (LMIC).

Global Surgery is defined as an area of study, research, practice, and advocacy that aims to improve health outcomes and achieve health equity for all people in need of surgical and anesthetic treatment, with particular emphasis on underserved populations and populations in crisis.⁷ In this context Global neurosurgery encompass those who suffer from neurosurgical conditions or those who need neurosurgical care.⁸ Global neurosurgery as a new paradigm in care offers the possibility of incorporating the best evidence-based standards of care. Development of research projects and policies. In the Bogota Declaration of Global neurosurgery, 2016 recommendation for amplification of access, alignment of all neurosurgical activity, the advancement of relevant research, assimilation of neurosurgical capacity, and advocacy of universal coverage was made.⁹ It has been estimated that 44% of the world's neurosurgeons reside in high-income countries whereas more than 80% of the disease arises in LMICs.⁶ To mitigate this a global neurosurgical collaboration is required to increase the workforce and strengthen the surgical service.

There has been less consideration coordinated toward the effect of COVID-19 in LMICs. According to a report, nine-in-ten spine cases are in LMICs, and the spine cases make up 39% of the operative cases in LMICs.⁶ Allowing access to surgical procedures to all patients who require them is not a privilege, it is an obligation of the nations. Bangladesh is a country located in Southeast Asia with a population of 164,689,383 people according to UN data. But with around 170 neurosurgeons working in 13 government and few military and private hospitals, it falls way short of providing essential neurosurgical care. Making things worse the current pandemic is making essential neurosurgical care more

inaccessible and backlogging of chronic neurosurgical conditions.

During the time of COVID-19 pandemic prioritizing neurosurgical patients has been a major challenge in Bangladesh like many other affected countries of the world. Inappropriate and inadequate resource allocation has been a major obstacle for the health system to function fairly providing safety to the patients. Neurosurgeons are being redeployed to help their colleagues in the hospitals where there was a shortage of personnel. Although this task-sharing and task-shifting are very much necessary in the pandemic situation it resulted in curtailing of neurosurgical service in some instances.¹⁰ There has been an enormous abatement in operative cases which has altogether affected the training of neurosurgical residents as they rely upon elective careful volume to sharpen their clinical and operative skills.¹¹ One of the key elements of providing standard neurosurgical service worldwide is the training of capable and competent neurosurgeons. The country offers post-graduation in neurosurgery in 4 centers. Also, as a part of the commitment for Global neurosurgery, Bangladesh offers post-graduation to neighboring countries. During recent times many neurosurgeons of Nepal have done their post-graduation from Bangladesh. This systemic and rigorous training process has been seriously hampered in the current situation. Although many international conferences and courses were canceled, these were replaced by numerous webinars arranged by different societies where world-renowned neurosurgeons shared their experience and gave their insight. But these opportunities certainly do not make up for the actual training with the first-hand experience. Like most other LMIC countries Bangladesh lack behind in keeping and managing patient data. In any efficient health system, patient data is the key to efficient management. This lack of centralized record-keeping and patient safety disrupts the accountability of service to the patients.¹² Apart from the cessation of certain academic activities, the current pandemic has also taken its toll on the country's research activities. The absence of local research on local needs impedes evidence-based practice.⁷

It is estimated that approximately 13.8 million new operative cases exist worldwide each year. Of these, nearly 5.2 million cases will require additional 23,300 neurosurgeons from LMICs to address them⁶.

As Global health activities have set to a different focus, the Global surgery's niche part Global neurosurgery as a certainty is slowed down. The huge burden on the health care system for the disease as well as the action required to prevent its spread has significantly affected the neurosurgical service of LMIC like Bangladesh. The already loaded of neurosurgical service in an LMIC like Bangladesh is being overburdened by this pandemic. Like any other low-income country Bangladesh is facing difficult challenges in carrying out evidence-based surgical procedures, insufficient research activity as a part of the residency, the economic crisis affecting the country's health sector leading to an indirect impact on neurosurgical patient's budget allocation in health only 5.15% (Tk 292 billion), health insurance not here, lack of health coverage and difficulty in following up the patients. It is during this time of Global crises the need for Global neurosurgical initiatives to come forward and rise to cause of essential and equal neurosurgical care.

Abbreviations

LMIC: Low to middle-income countries

Declarations

Ethics approval and consent to participate

Not applicable

Consent for publication

Not applicable

Availability of data and materials

The data used in this study are available from the corresponding author on a feasible request.

Competing interests

The authors declare that they have no competing interests.

Funding

No funding.

Author's contributions

RAK, MMR, AA, EGB and LRMS collected data, wrote and reviewed the manuscript. All authors read and approved the final manuscript.

Acknowledgments

The authors would like to thank all the members who were part of this paper.

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