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EDITORIAL

Reinvention of an academic anaesthesiology department during the COVID-19 pandemic; comparisons with lower resource environments

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This edition of the journal includes a paper that outlines how an academic department of anaesthesia in a well-resourced environment (United States) refashioned itself to respond to the impact of the global COVID-19 pandemic.[1] This refashioning acknowledges the responsibility of academic departments of anaesthesia to train anaesthesiologists and simultaneously offer clinical care to patients during a pandemic. Since being declared an international healthcare emergency by the World Health Organization (WHO), the coronavirus 2019 (SARS-COV-2) pandemic has spread across the globe, overwhelming healthcare systems by causing high rates of critical illness. This has resulted in drastic changes in the daily life and routine of healthcare workers. Healthcare systems have had to adapt to a new normal in terms of workforce safety, staff redeployment, shortages in human resources, medical supplies and restructuring of the workplace. Academic anaesthesia departments across the globe have similar experiences, but their needs have varied.[2] As of 16 May 2021, the global COVID-19 infections stood at 163 711 858 infections, 143 325 004 recoveries and 3 393 270 deaths. 102 481 patients are in a serious and critical condition. In Africa, there are 4 730 374 cases of infection with 4 262 058 recoveries and 126 652 deaths.[3,4]

It is valuable to compare the response of Morrissey et al.[1] to our response in a more modest environment in Kenya. The University of Nairobi and Kenyatta National Hospital (KNH) work together. Anaesthesiologists in the department of anaesthesia and KNH share clinical duty rosters. Our COVID-19 response was led by the Dean of the School of Medicine and the Chair of the Anaesthesia Department. In the hospital, a COVID-19 response coordination team was formed and chaired by the Senior Director Clinical Services. The Chair of Anaesthesia and two other lecturers were selected to lead the response team in the department with the responsibility of identifying what is needed in the response and implementing the changes required during the pandemic. These included: (i) academic activities, such as sensitising students on safety and infection control, reorganising teaching and examination schedules; (ii) clinical service activities, e.g. revision of on-call duty rosters in response to the pandemic, education, and protection; and (iii) ensuring a team of infectious diseases experts was ever present in guiding the hospital response in the clinical area and all anaesthesia delivery points.

Initially, when the country reported the first case in March 2020, one of our theatre operating rooms was identified to handle positive COVID-19 surgical patients only. At this time, two teams of anaesthesiologists covered three days on and seven days off duty to minimise exposure to infection. Within three months, the hospital managed to have a new COVID-19 theatre in a separate building. Communication was a cornerstone of our response. The Chair of the Anaesthesia Department was responsible for internal and external communication within the university and the hospital. National COVID-19 infection statistics were communicated daily at national level by the Ministry of Health, and relayed to the hospital COVID-19 response coordination team and shared widely within the Anaesthesia Department and its staff. At a facility level, COVID-19 data was collated and sent daily to the Ministry of Health by the hospital statistics unit via email.

In order to manage the pandemic effectively, frontline staff were trained on management of COVID-19 infected patients using the COVID-19 management guide and standard operating procedures adopted from the Ministry of Health.[2] In contrast, we had short structured training sessions unlike the intensive COVID-19 simulation course developed by the University of Utah.[1] In addition, the University of Utah also established a specialised COVID-19 airway team dedicated to performing all tracheal intubations in the hospital, which we did not have. In comparison, part of our training was through online channels using simulation videos.

Similarly, in our set up, we rescheduled didactic and clinical teaching, examinations and reallocated teaching and learning spaces to ensure 'social distancing' safety in the department. In the hospital, continuous training sessions, seminars and video conferences on COVID-19 were organised for all via webinars.

Shortage of personal protective equipment (PPE) was a challenge. We received donations from corporates which were distributed to staff and students in the department. We therefore also focused on emphasising the effective and efficient use of PPE and the importance of a departmental supply. Limiting the use of N-95 respirators to healthcare staff at the point-of-care

and controlling their supply at departmental level was part of our approach to conserving PPE. The other members of staff used the normal surgical masks. We did not have a mask sterilisation programme like in Utah or the capacity to modify respiratory equipment. This obviously increased the risk of infection to our team, compared to that of the Utah team.

The number of patients attending hospital decreased due to a fear of being infected with COVID-19 on coming to the hospital. Elective surgical patients were discharged home to create space for treating surgical emergency cases only, the surging number of COVID-19 cases, and to free some of the anaesthesiologists to join the COVID response team in the rest of the hospital. The high number of infections in the third wave strained our resources even further. This led to an oxygen shortage within the hospital, but the situation is currently being addressed.

Regarding wellness, a number of healthcare workers were infected, and senior staff members were assigned the duty to manage and give emotional support to the infected staff at the departmental level.[5] Affected staff were offered psychosocial support by the Department of Mental Health. Those who were symptomatic were admitted to the staff isolation ward in the hospital. In order to reduce exposure of staff to infection, we changed the working time schedule and lowered the number of working hours per shift. At the beginning, we had two duty rosters: (i) COVID-19 theatre where anaesthesiologists would work for three days and take seven days off duty; and (ii) the remaining anaesthesiologists would cover the five emergency running theatres and the rest would cover anaesthesia contact points, including critical care units in the hospital. Currently, we have transitioned back to one duty rota for all the anaesthesiologists. The majority of patients had no COVID-19 test done, and all frontline staff were afforded PPEs for their safety.

Morrissey et al. suggested an airway team and the COVID-19 simulation course as per their needs assessment to address the knowledge gap, as vital additions to their management of COVID-19 patients.[1] Furthermore, a lack of well-established interventions to treat SARS-COV-2 infections and complications, COVID-19 research trials and effective dissemination were identified to fast track an effective multidisciplinary therapeutic panel in Utah.

Our approach was different due to: (i) being a low resource country, with shortages in human resources; (ii) shortage of supplies; (iii) limited infrastructure capacity; and (iv) a low number of infections in our environment. The low number of infections could be attributed to low testing capacity and a smaller proportion of severe disease. So far, we have 933 436 people vaccinated in Kenya between March and May 2021.[5] As the pandemic continues, we need to share best practices within the global anaesthesia community as we have been doing in order to improve the quality of care to patients. The lessons shared by Morrissey and colleagues[1] have a global anaesthetic relevance and in my opinion can be applied in most anaesthesia academic departments and teaching institutions, even in low resource countries.

In conclusion, I would encourage anaesthesiology staff to read this article and share it widely with colleagues in their institutions to enhance and stimulate COVID-19 research as well as to develop health education programmes to manage the pandemic.

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