A Student-Led Medical Education Initiative in Iran: Responding to COVID-19 in a Resource-Limited Setting

To the Editor: Iran has had the highest number of COVID-19-related hospitalizations and deaths in the Eastern Mediterranean region: As of October 3, 2020, 464,596 confirmed COVID-19 patients and 26,567 deaths were reported.1 When the first COVID-19 patient was detected in Iran on February 19, 2020, hospitals entered into a state of emergency due to shortages of personal protective equipment and frontline staff. Our medical school classes were suspended, and our clinical attending professors were overwhelmed with hospitals’ soaring patient loads. Additionally, limited infrastructure capabilities for transferring traditional in-person medical education to online platforms have contributed to anxiety and fear of an uncertain future amongst medical students. We, as senior medical students (sixth- and seventh-year students [medical interns]) in the capital city of Tehran, aimed to contribute to the COVID-19 response in Iran by filling the medical school educational gap through a student-led COVID-19 initiative. Under the supervision of 2 clinical attending professors, in late February we developed a student-led 2-week follow-up program for discharged COVID-19 patients. More than 70 fourth-year through seventh-year medical student volunteers participated in a 40-hour online training course on COVID-19-related prevention and care. Starting on March 9, 2020, through follow-up phone calls, fourth- and fifth-year medical students interviewed patients on days 1, 2, 3, 5, 7, 10, and 14 after their discharge using a predetermined research protocol; recorded patients’ clinical data in an online database; provided education and support for patients and their family members; and regularly reported patients’ status to senior medical interns and the 2 clinical professors. Patient profiles were presented in interactive online platforms (i.e., WhatsApp group, teleconference calls, Skype presentations) for a thorough discussion of lessons learned and improved decision making for future patient follow-ups. In the first phase of implementation, medical students collected data on more than 820 recovered COVID-19 patients via these telephone-based surveys.

Our experience illustrates that medical students can play a meaningful and impactful role in the COVID-19 response via innovative online programs. Our student-led initiative has been well received and enhanced students’ learning processes by lowering cognitive distance, role modeling exercises, and providing a safe learning environment. Our program also helped address the COVID-19-related increasing levels of anxiety, frustration, fear, and demotivation among medical students and interns through regular meetings and engaging them in the COVID-19 response. Medical schools—particularly those in resource-limited settings with already overburdened health care systems and restricted financial and human capital resources—could greatly benefit from student-led, peer-to-peer online educational platforms designed to compensate for the loss of educational and direct patient care opportunities brought about by the COVID-19 pandemic.

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Laya Jalilian Khave Medical intern, Faculty of Medicine, Shahid Beheshti University of Medical Science, Tehran, Iran.

Mohammad Vahidi, MPH Medical intern, Faculty of Medicine, Shahid Beheshti University of Medical Science, Tehran, Iran.

Taha Hasanzadeh Medical intern, Faculty of Medicine, Shahid Beheshti University of Medical Science, Tehran, Iran.

Mehran Arab-Ahmadi, MD, MPH Radiology resident, Advanced Diagnostic and Interventional Radiology Research Center, Tehran University of Medical Sciences, Tehran, Iran.

Mohammad Karamouzian, DVM, MSc PhD candidate, School of Population and Public Health, University of British Columbia, Vancouver, British Columbia, Canada; member, COVID-19 Impact Committee, Pierre Elliott Trudeau Foundation, Montreal, Quebec, Canada; and research scientist, HIV/STI Surveillance Research Centre and WHO Collaborating Centre for HIV Surveillance, Institute for Futures Studies in Health, Kerman University of Medical Sciences, Kerman, Iran; karamouzian.m@alumni.ubc.ca; ORCID: https://orcid.org/0000-0002-5631-4469.

Remote Learning for Medical Students in Nigeria During a Pandemic

To the Editor: As an international medical graduate who finished medical school in September 2019, I found resuming my training in Nigeria in January 2020 in a compulsory one-year internship in the middle of the COVID-19 pandemic to be quite challenging. My classmates and I recited the Hippocratic Oath with joy and celebrated with our parents over the successful completion of medical school only to find ourselves being recruited into a battle against an enemy about which the entire world is still learning. It was tough working with a limited supply of personal protective equipment. Several front-liners at my hospital got infected and were admitted immediately into an isolation center. This decreased the number of medical workers available to take care of an already overwhelming number of patients.

There is a shortage of doctors in Nigeria,1 and COVID-19 has caused a further decrease in the number of health workers by stalling medical education in my country. Clinical activities for medical students have been suspended due to government-mandated social-distancing guidelines and are expected to resume when the pandemic ends. There is uncertainty as to when medical students will begin to attend clinics and observe surgical procedures again. The lack of electronic medical records (EMRs) makes it difficult to create platforms to conduct virtual ward rounds.2 In the meantime, students have been encouraged to embrace remote learning. They can join live video lecture sessions via Zoom and access study materials using Telegram and WhatsApp. Participation in remote learning, however, has created additional costs for data and Internet services. Further, my country’s unstable electric...
power supply has made students miss tests being administered virtually.

Despite these challenges, remote learning has benefits and can contribute to improving medical education. Remote learning has been shown to be convenient and effective, and it will help medical schools meet their commitment to produce high-quality doctors during—and despite—the pandemic. Adoption of a hybrid model, where small in-person group discussions are allowed and lectures are held online, should be encouraged. Technology companies should offer discounted Internet services to students and facilitate the implementation of EMR systems. This would help students participate in virtual ward rounds. Students should also be provided opportunities to be involved in research and attend virtual conferences.

During this period, it is important that we embrace remote learning and find new ways to integrate it into medical education and health care delivery. We must also keep our hope alive: Just like a small but frightfully painful kidney stone, this difficult period will surely pass.

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Oluwagbemiga Abraham Oyeleye, MBBS
Medical intern, Lagos University Teaching Hospital, Iddi-Arabia, Lagos, Nigeria; gbengaoyeleuy95@gmail.com.

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References

Do-It-Yourself Surgical Simulation Kits: One Academic Medical Center’s Response to the COVID-19 Pandemic in Malaysia

To the Editor: The rapidly evolving nature of the COVID-19 pandemic has negatively impacted surgical training by reducing trainees’ operative exposure and curtailing traditional teaching methods. At the University of Malaya, we used easily available materials to construct do-it-yourself (DIY) training and evaluation surgical skill simulation models during a federally mandated lockdown. This effort was spurred by the following:

- Our historical reliance on hands-on operative exposure as a key part of training meant that we did not have simulation sets/modules readily available on site.
- Offices of device companies that would typically provide training models were closed, and their staff were working from home.
- The sudden nature of the lockdown in tandem with rapid hospital-level changes meant that we did not have time to prepare by bringing in simulation models.

Forced to think on our feet, we devised DIY simulation models using the following materials obtained from hardware shops, which were allowed to remain open during the lockdown:

- Foam mat with silver foil covering
- Child-safety corner and edge protector foam
- Plywood cut to 12 inches × 12 inches (edges sanded using an angle grinder)
  - Covered with clingwrap/cellophane tape to allow reuse
  - Rubberized nonslip surface
- Plastic water bottles
- Nails
- Wall cable organizer
- Wall hanger
- Felt cloth
- Gloves (nonsterile)
- Expired sutures

The average cost of materials per set was 35 Malaysian ringgit (approximately $10).

Using these materials, we crafted models for practice of the following skills:

- Basic running instrument suture and instrument ties
- Bowel anastomosis (with simulation of anatomy of third part of duodenum)
- Vascular anastomosis (with simulation of a vein)

We created vignettes to provide context for each task to assess the trainees’ understanding of types of suture materials required, choice of needles, and understanding of anatomical structures and tissues at risk. For work simulating bowel and vascular anastomosis, trainees were required to use magnifying loupes, as they would for live surgery. Two sessions were held—one for training (pitched according to trainee seniority) and one for evaluation (convened 10 days after training to allow practice).

We believe these practical suggestions would be easy for others to implement in settings similar to ours. Even programs in resource-abundant settings may find our ideas useful as they may have to deal with diversion of funds to support COVID-19 initiatives.

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Shireen A Nah, MBBS, MRCS, MSurg
Associate professor, Division of Paediatric Surgery, Department of Surgery, Faculty of Medicine, University of Malaya, and University of Malaya Medical Centre, Kuala Lumpur, Malaysia; shireen.nah@ummc.edu.my.

Anand Sanmugam, MD, MPAedSurg
Senior lecturer, Division of Paediatric Surgery, Department of Surgery, Faculty of Medicine, University of Malaya, and University of Malaya Medical Centre, Kuala Lumpur, Malaysia.

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“Holistic Admissions” During a Pandemic: The Effects of COVID-19 on Socioeconomically Disadvantaged Medical School Applicants

To the Editor: The COVID-19 pandemic has upended nearly every aspect of undergraduate medical education, including the traditionally yearlong admissions cycle. For those who are first in their family to graduate