MEDICAL EDUCATION ADAPTATIONS

From bedside to webside: A neurological clinical teaching experience

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1 | WHAT PROBLEMS WERE ADDRESSED?

Stringent infection control measures in response to the coronavirus disease (COVID-19) pandemic barred medical students from entering hospital premises, effectively stopping all clinical teaching activities in the wards and clinics. Although didactic teaching can continue with pre-recorded lectures, clerking of patients, which is an essential component of undergraduate medical education, is not possible for an extended duration. To maintain students’ clinical exposure and provide them with learning opportunities from real patient scenarios, we adapted conventional bedside teaching to ‘webside teaching’ using interactive video conference technology.

2 | WHAT WAS TRIED?

Clinical webside teaching for the neurological clerkship was carried out with a Zoom (San Jose, CA, USA) conference platform in March 2020. Five groups of four to five medical students each clerked a patient using video conference through a high-definition camera and microphone system. After obtaining the patient’s consent, students took a complete medical history and ‘performed physical examination’ with the help of the tutor. With some adaptation of clinical skills, an informative neurological examination, including assessing cranial nerves and motor function, can be carried out. Other relevant examinations, such as sensory function assessment and tendon reflexes, were performed by the tutor and observed by the students in real time.

This was followed by an interactive discussion of the investigation and management plan. Appropriate radiological imaging, such as a magnetic resonance imaging (MRI) brain scan, was shown to the group using the ‘share-screen’ function. Other clinical information, such as laboratory results, can likewise be displayed. The session was completed after thorough discussion on the appropriate treatment plan with respect to the patient’s scenario.

3 | WHAT LESSONS WERE LEARNED?

Webside teaching is a useful education experience when real patient contact is not possible. Tutors are able to improvise with students to modify neurological examination skills for telemedicine consultation. For example, the consciousness level and language function were assessed during the interview, and the motor function and the gait can be evaluated by asking patients to squat or walk. Much of the cranial nerves examination was achieved with students instructing patients to move the eyes, the face and the tongue in front of the camera. Similarly, dysdiadochokinesia and dysmetria can be elicited by asking the patient to perform a finger-nose test or clapping tasks. Although this cannot replace a physical examination at the bedside, it provided the necessary information to facilitate clinical discussion.

We were pleasantly surprised by the highly interactive teaching achieved at webside by utilising the ‘annotate’ and ‘remote control’ tools in conjunction with share-screen, allowing students to scroll through radiological images, illustrate the lesion or label relevant anatomical landmarks. Choosing patients who can articulate their symptoms well facilitates the process. Educating students on professional webside etiquette ensured a pleasant experience for all those involved. Students’ feedback has been positive and most found webside teaching comparable to or better than bedside teaching in fulfilling learning outcomes, except for physical examination skills. Telehealth clerking is an addition to the existing curriculum and webside teaching may continue to have a role after the pandemic, as telemedicine consultation becomes an essential skill for the next generation of medical practitioners.

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