

Editorial

Impacts of COVID-19 Pandemic in the Medical Education System

Introduction

The worldwide pandemic due to COVID-19 has truly shaken the health system of the world. Economic crisis has been noticed not only in healthcare but also in industries, tourism and other important sectors also. Traditional education system has been replaced by distance learning or e-learning. The medical education system had also observed a huge change. There are different components of medical education system like lecture, clinical skill laboratories, bed-side teaching, problem-based learning, clinical examination and so many. Moreover, proper internet facility is the key resource for distance learning. The importance of face-to-face nature of medical education, financial constrain and lack of proper internet facility have put the world medical education in severe sufferings.

Logistic constrains and lack of face-to-face teaching

A cross-sectional study was conducted among 13 medical schools of Libya. A total 3348 students were enrolled and was asked regarding e-learning knowledge, mental stress and attitude by valid questionnaire.¹ Most of the students (64.7%) thought establishing e-learning at Libya would be impractical. It was found only 21.1% students claimed to be benefitted by online classes. Sixty five percent students reported the internet quality was not up to the mark.

The General Medical Council (GMC) has prioritized making care of patients as a first concern. The management of the pandemic situation to tackled first over medical education.² Lack of training made the trainees anxious, which is quite logical. Trainees do not want be passed as under-skilled personnel. Moreover

hand-on procedures are most vulnerable to be affected. Certainly there are some aspects which cannot be trained by e-learning only. There were three suggestions for the trainees to be focused during the crisis time. 1. Students and trainees should revise more on the skills and knowledge already have been taught 2. Procedural skills and knowledge to be practice more in clinical skills laboratories (CSL) on simulations and models and 3. Trainees to be encouraged to practice what they have learnt during the crisis and to practice it more to move forward.

A survey was made in Indonesia on 545 medical students regarding the impact of long-distance learning.³ Among all students 31.9% used to use mobile data only, 28.1% used WIFI only and rest 40% used both. Some advantages and disadvantages were sorted out. The advantages were cheap cost (except for mobile data), less hassle, no specific preparation required, location flexibility and time flexibility. The disadvantages were lack of face-to-face interaction, lack of understanding, lack of concentration, difficulty in internet signal and problem in study material pilling up.

A survey was done on first and second year medical students at California regarding their opinion on the distant learning program during pandemic condition.⁴ Invitation sent to 268 students, but response received from 104 students. Response rate was 53.7% among first-year students and 23.9% among second-year students. Overall, 70% agreed that medical learning was negatively affected and among the negatively affected subjects Anatomy (69%) and Histology (53%). More than half (52%) student found problem-based learning (PBL) and nearly one third (31%) students found lecture-based learning to be affected. Nearly two-third (69.9%) used to spend 100 USD extra per month

for the distance learning, whereas nearly one-fourth students spent 100 to 500 USD extra per month. During the e-learning time nearly one-fifth (20.4%) students moved out of their residences, other students stayed at their residence. As a whole 21.4% students felt their houses did not have appropriate environment for e-learning. Only 5% students indicated that they had any internet problem.

In Malaysia, one of the key obstacles of e-learning was internet problem.⁵ Though Malaysia is enjoying a well-connected network in the country, but 87.4% students and lecturers faced internet issue when they practiced online classes. Lack of e-learning infrastructure was another inhibitory point regarding distance learning. They found five important points to be considered when face-to-face learning was not possible. They are lack of bed-side teaching, deficiency in clinical exposure, no hand-on on history taking along with physical examination and finally lack of hands-on training in procedures like bladder catheterization or intravenous cannula insertion.

Psychological effects on medical students

The McGill University of Canada runs a program for the medical students named "Longitudinal Family Medicine Experience (LFME)" to enhance the clinical examination and history taking skills during clinical clerkship.⁶ Under this program pre-clinical students are tagged with general practitioners at their clinic 4 days per month. After starting of the COVID-19 pandemic this program has stopped the clinical teaching has severely affected. The Canadian Federation of Medical Students (CFMS) outlined three proposals for safe return to clinical training.⁷ They are learning by observing senior doctors at hospital, providing adequate number of PPEs and proper supervision by the seniors during rotation training. The North-American medical education was transitioning towards competency-based model which was compromised due to lack of hands-on training skills.

Clinical rotation of medical students is the key to procedural skills to perform the procedure independently.⁸ The Association of American Medical Colleges (AAMC) has released a notice suggesting withdrawal of medical student from clinical rotation and different countries have followed the suggestion. In absence of face-to-face training students severely lost their confidence on clinical skill and training and developed 'imposter syndrome'.⁹ Few students have starting of alternate career also.

COVID-19 pandemic has increased the incidence of anxiety, depression and suicidal thought among the population of Australia, UK and USA. When compared these conditions of general population with medical students it was found significantly high in the medical students.¹⁰ The incidence of depression was 4.1%, 3.3% and 7.1% among the general populations of Australia, UK and USA respectively whereas the same incidences were 8.1%, 9.7% and 58.2% in the medical students of these countries. Consuming hazardous drugs was nearly 4 times more (5.1% compared to 19.7) among the medical students of Australia. Alcohol consumption was increased nearly 2.5 times more (19.2 compare to 50.4) in the medical students in UK.

Conclusion

Clinical rotation had seriously been affected in most of the countries. Internet and other logistic supports were limited in some developing countries. The mental trauma of the medical students due to lack of confidence on clinical learning and uncertainty of career was enormous, especially in the western countries.

Conflict of interest: None.

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