



Covid-19 and education system: Impact of current pandemic on adaptive learning strategies in medical education system

Deepali Patil¹, Waqar M. Naqvi^{*2}

¹Department of Musculoskeletal Physiotherapy, Ravi Nair Physiotherapy College, Datta Meghe Institute of Medical Sciences, Wardha-442001, Maharashtra, India

²Department of Community Health Physiotherapy, Ravi Nair Physiotherapy College, Datta Meghe Institute of Medical Sciences, Wardha-442001, Maharashtra, India

Article History:

Received on: 20 Jun 2020
Revised on: 18 Jul 2020
Accepted on: 21 Jul 2020

Keywords:

COVID 19,
Adaptive learning,
Healthcare,
E-learning,
Lockdown

ABSTRACT

In the last few months, the globe has been overwhelmed by the pandemic coronavirus as the number of increasing documented cases, and death rates have continued to be reported. The disease is mild in most people usually aged people and those with the coexistence of multiple disorders alongside a primary disorder, pneumonia, acute respiratory distress syndrome (ARDS), and multiorgan dysfunction may develop. No special or specific drugs/medications are available. Neither vaccine has been developed, nor is any previous antiviral drug effective for treatment. Instead, medication is done based on the treatment of clinical features with appropriate drugs and the management of critical patients in intensive care units and isolation. The situation of India's COVID19 has improved decently than that of other countries already affected, thanks to precautionary measures. India, however, did not escape the pandemic. Coronavirus spread (COVID-19) has led most countries around the world to implement urgent lock-down strategies to reduce the blowout of the disease, results that stopped classroom teaching and educational institutions. Global response of health education to COVID-19 pandemic is different from each area, from closings of health institutions to distance learning tactics to compliance with area-specific actions, such as communal distancing to stop the blowout of disease. The unexpected transition from classroom teaching to online education is a challenge both for faculties and learners, and a great deal of preparation and effort is needed in a short time.



*Corresponding Author

Name: Waqar M. Naqvi
Phone: 9021699000
Email: waqar.naqvi@dmimsu.edu.in

ISSN: 0975-7538

DOI: <https://doi.org/10.26452/ijrps.v11iSPL1.2736>

Production and Hosted by

IJRPS | www.ijrps.com

© 2020 | All rights reserved.

INTRODUCTION

The reaction of medical institutes to COVID-19 might be varied. The shutting of campuses and inadequate admittance to substitute education rooms have forced many students into an unfamiliar education environment. A quick rearrangement of the examination means that those making for or task valuations should experience new test structuring and marking structures in a short period (O'byrne, 2020). The fate of medical education is uncertain as a result of the pandemic. Still, a list of possible upcoming situations is addressed to notify present action-taking about the future delivery of teaching and learning. The practice of emerging tech-

nologies for education, such as computer technology for adaptive learning and cybernetic realism, is likely to be essential components of transformative learning measures, to make certain social distance has included, closing medical schools and working from home for both educators and students. Domestic and intercontinental travelling and participation in training plans have been stopped. Bodily attending workshops, seminars, symposiums, clinical parts, and staying fellowship have stopped. These variations crosswise the dimension of medical teaching were primarily due to the replacement of traditional protocols to providing medical teaching, determined by the top-priority of implementing a viable and real-world resolution to the crisis, by professors through acquainted skill (Sahu and Naqvi, 2020; Shah and Naqvi, 2020). Medical institutions and additional providers of medical teaching, together with commercialized academies, have increased the providing of online didactic information dramatically and trained teachers to use the technology especially distance teaching (Goh and Sandars, 2020).

E-Learning

Online skills also well-defined as facility and communication resources accessible through the Cyberspace, together with communal media platforms, online manoeuvres, and conversation forums. Internet teaching now an essential portion of the life of students and academic staff in education. Nowadays, healthcare students are habitual to use web portals frequently throughout the day for what's happening around the globe (Rajhans *et al.*, 2020). Social platforms and Web-based information broadcasters are the fastest way to get the appropriate knowledge without going anywhere and also the easiest way to stay updated. So the Social platforms and web portals become automatically comes in first place for medical students, now coursebooks, notes, and assigned text are not only the source to learn for medical students (Mącznik *et al.*, 2015). In the computer operating system learning management system (LMS) is for the management, certification, to monitor, communicating, automation, and conveyance of training courses for education and advance programs providing e-learning give birth to LMS. The first step in addressing the change from the old-style way of teaching to distance teaching is the need of time due to lock-down.

The plan must start with the advancement of the faculty and the Course variations execution must contain schedules and type of online lectures, hands-on workrooms, problems based online study, medi-

cal competence, and interpersonal communication between a teacher and a learner. Moodle and Blackboard are standard options most of the time for LMS. The changeover of classroom teaching to online classes put a load on teachers. Teachers have a crucial role to play in online education and will make the same training accessible to them. Teacher preparation will be organized based on the evaluation system and approach selected for the lectures. The following are parts of online learning: academic, structural, practical and societal. Students are involved in discussion with the teacher and batchmates in the synchronous method.

In contrast, the asynchronous process involves students in discussion in LMS and other applications on the web at different times. The asynchronous method is done by using techniques such as conversation mediums or through email. Apparent interaction is possible with the synchronous process, while the direct reaction is not possible with the asynchronous operation. There are collaborative approaches to maximize student participation in the conversation groups and message boxes in the asynchronous method. For increasing the contribution of students, many approaches planned, fewer posts, grant marks of a post. Grant marks for the post to improve response for the post of students in the portal (Taha *et al.*, 2020). The widespread demand for educational data offers an educational researcher with a wide range of occasions to practice computational analysis of data to obtain valuable acquaintance to develop the education process. Educational computational analysis of data concentrates on gathering besides processing of student record and their education backgrounds, educating computational analysis of data deals with the survey of teaching environment strategy and the quality of coaching methods provided to students (Ndukwe *et al.*, 2018).

Medical Education System

Now a days competency-based medical education (CBME) and systematic evaluation is more in trend and needs consistent valuations of student accomplishment. Health institutions reacted productively to the problem of the lack of incentives for evaluating student success or carrying out wide-ranging exams. Formative and summative evaluations of core acquaintance have started to utilize a variety of internet tools. Similarly, feedback on performance and abilities acquisition has begun to increase the widespread audio-visual availability on mobile devices to allow assessment in either experimental or virtual backgrounds. Valuations of students should be based on good quality evidence,

and verbally instructed evaluation as well as valuation methods (Goh and Sandars, 2020). In teaching process videos can be assisted by either adding teaching space tasks or in self-directed internet education components. There are a large number of videos available describing medical procedures on the internet. Still, the teacher should decide which video will be selected and when to use it or make their videos (Dong and Goh, 2015).

Many sites and applications are available for the online learning process despite LMS for synchronous and asynchronous method. For Conversation, purpose are Blackboard, Moodle, Slack, Schoology, Edmodo as well as Flock and for internet distance education lecturing Blackboard Collaborate Ultra, Skype, Google suite, Go to a meeting, Go WebEx, Blue jeans, Loom, Team viewer and, Join.me (Taha *et al.*, 2020).

In the classroom, teaching teachers can observe students directly to check the stress level of students. Whereas it is difficult to understand students stress and attention during an online class. Several research findings have shown that internet distance teaching is much more stressful and difficult for learners than in classroom teaching. Teaching resources must be modified for online delivery when classical education altered with distance learning. When classroom teaching developed with online teaching sharing of the recorded video are more helpful as a compared synchronous method. Recent researches also advocated that deep transfer learning-based COVID-19 classification models can also be efficient as compared to the other supervised learning models (Pathak *et al.*, 2020).

Teachers need to do more to engage and motivate online learners to increase interest amongst students. Specific strategies, and pre-and post-test, are desired to involve students with educational resources. Video content should be appropriately planned and recorded with special consideration. There are some rules to follow when involving video in medical teaching. First guiding students about video content then using the communicating mode to increase the involvement of students. Teachers must co-relate the videos with the aim and goal of the topic and assimilation of PowerPoint. The image of the lecturer should be there on the screen and avoid intellectual overload on students. There must be limited use of videos in medical education. Evaluation of students in online-based teaching should be the "Formative" method than the "summative" method. There are many online applications for assessment of students, and some frequently used are Kahoot, Socrative, Quizlet Live, and Nearpod.

Many options are available for knowledge testing by writing valuation like long and short essay questions, open-book test with the appropriate online application. LMS platforms offer online applications, such as Taskstream, that allow students to shape online sources of their research, knowledge, and replication. The biggest challenge in online teaching is to assess Psychomotor domain. To evaluate clinical reasoning, Virtual Objective Structured Clinical Examination (OSCE) stations and game creations can be used. Simulated patients can also provide many ways of measuring students achievement. Many applications are available for teachers to make questions and tests to appraise student learning, like Question Mark Perception and Respondus. The daily feedback system should be there from students and faculties for ongoing improvements in this new method of learning. Assessment of feedback can be completed by using an easy online form. Questions covered for faculties are the number of lectures prearranged for students, the number of resources applied for lecture; the type of online lecture taken; observations on student presence and communication; the difficulties handled all through execution of lecture; and ideas as to how to circumvent these difficulties (Taha *et al.*, 2020).

CONCLUSIONS

The COVID-19 pandemic has been an impact of global change in medical learning methods all-over countries, and the usage of skill quickly and creatively to maintain learning and teaching. Digital platforms (i.e. sites and conversation mediums) many things to help students in learning. Benefits to be offered for educating and knowledge of medical students. It provides and enhances skills and education with pleasurable, handles with ease, and deepening Learn and encourage reflection. Such benefits make it possible to learn from multiple perspectives. When a pandemic is resolved, dramatic change in the learning system, technology is used in medical institutions, particularly with the combination of developing technologies.

ACKNOWLEDGEMENT

We would like to thanks the teachers who are putting their best effort for students worldwide.

Authors contribution

DP conceptualized and wrote the manuscript. WMN proofread and assisted in manuscript preparation. All the authors read and approved the final manuscript for publication.

Funding Support

None.

Conflict of Interest

None.

REFERENCES

- Dong, C., Goh, P. S. 2015. Twelve tips for the effective use of videos in medical education. *Medical Teacher*, 37(2):140–145.
- Goh, P. S., Sandars, J. 2020. A vision of the use of technology in medical education after the COVID-19 pandemic.
- Maćznik, A. K., Ribeiro, D. C., Baxter, G. D. 2015. Online technology use in physiotherapy teaching and learning: a systematic review of effectiveness and users' perceptions. *BMC Medical Education*, 15(1):160–160.
- Ndukwe, I., Daniel, B., Butson, R. 2018. Data Science Approach for Simulating Educational Data: Towards the Development of Teaching Outcome Model (TOM). *Big Data and Cognitive Computing*, 2(3):24–24.
- O'byrne, L. 2020. Medical students and COVID-19: the need for pandemic preparedness. *J. Med. Ethics*.
- Pathak, Y., Shukla, P. K., Tiwari, A., Stalin, S., Singh, S., Shukla, P. K. 2020. Deep Transfer Learning Based Classification Model for COVID-19 Disease. *IRBM*, 43(2022):87–92.
- Rajhans, V., Memon, U., Patil, V., Goyal, A. 2020. Impact of COVID-19 on academic activities and way forward in Indian Optometry. *Journal of Optometry*.
- Sahu, A., Naqvi, W. 2020. Upper limb functional independence in subacute stroke patients: a study protocol investigating the impact of haptic enhanced virtual reality system. *J. Crit. Rev*, 7.
- Shah, P., Naqvi, W. 2020. Fighting And Chasing The Rogue Virus-Covid19. *International Journal of Research in Pharmaceutical Sciences*, 11(SPL1):77–80.
- Taha, M. H., Abdalla, M. E., Wadi, M., Khalafalla, H. 2020. Curriculum delivery in Medical Education during an emergency: A guide based on the responses to the COVID-19 pandemic.