

ROAD-MAP FOR CONDUCTING MEDICAL EXAMS IN RESOURCE LIMITED COUNTRIES DURING COVID-19 PANDEMIC

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ABSTRACT

The COVID-19 pandemic has adversely affected medical education worldwide. Developed countries have successfully managed this by adopting modified ways of teaching and assessment and utilizing their resources but low income countries have struggled in managing the challenges they have faced in teaching and assessment. Medical exams have been postponed multiple times because of no clear way forward due to limited resources. This has not only resulted in wasting of the time of students but also adds to desperation and frustration of the students as well as teachers and institutes. Newer modes of information transfer including E-lectures, pre-recorded videos, simulation based learning and assessment (Kahoot, Socrative etc) have been introduced over the past two years. This paper illustrates a modified model for medical exams which may prove a suitable alternative for low income countries during pandemic.

KEYWORDS: Educational Measurement (MeSH); Education, Medical, Undergraduate (MeSH); e-Learning (Non-MeSH); Academic Performance (MeSH); Medical Schools (MeSH); COVID-19 (MeSH); Developing Countries (MeSH).

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the past. Majority of the schools have no infrastructure, resources, learning management system, information technology (IT) support or training programs for the faculty or students. It will definitely take time in order to overcome this hurdle.¹²

The second and foremost obstacle in online delivery of education is the low bandwidth, poor internet connectivity and electricity shutdowns.¹³ Electricity power cuts may last for hours particularly in rural areas without any back up like power generators/solar support due to financial constraints.

Most of the families in developing countries often live in over-congested houses, many family members usually reside in a single room, and rarely a separate room might be available which may be noise free. Superimposed closure of schools and high chances of small children at homes further complicates and turns the home's environment unfavorable to attend online lectures/sit online exam.¹⁴

Engaging students during online lecture itself is a challenge and requires faculty training in that regard, without which students may easily get distracted specifically if the surrounding environment is not favorable.¹⁵

Students do cheat particularly when they are more emotionally stressed. Impersonation is another problem during online exams and e-proctoring/distant monitoring itself is quite challenging.¹⁶

Despite all the limitations, teaching and learning may still be managed by providing

INTRODUCTION

Current Coronavirus disease (COVID 19) pandemic has affected every walk of life in almost every corner of the world. Long lockdowns were implemented in different countries with closure of every sector of life. Universities and medical schools were closed.¹ Educational activities and exams were postponed both in low and high income countries. However the situation for teaching and assessment is not the same as compared to the early days of pandemic. On one side developed countries backed by their strong budgets, advanced technologies, infrastructure and vast resources quickly adopted new educational and assessment strategies. Most of the institutions transitioned teaching from face to face sessions to online platforms.²⁻⁵ On the other hand in low income countries where educational facilities were already scarce, have more adversely been affected by COVID 19.^{6,7} With the advent of vaccination there has been an array of hope to return back to pre COVID 19 like situation but that too,

may not be so quickly and effectively possible in the developing world.⁸ Due to the emerging variants (Delta, Omicron) and Sub-variants there is always a risk of increased rates of infections and mortalities resulting in tougher lockdowns again.^{9,10} Can the online teaching and learning strategies or assessment methods adopted by medical schools in the developed countries be smoothly executed by the medical schools in low and middle income countries is a big question mark yet to be answered.

What challenges we face?

Online teaching and assessment have proved as a rescue therapy for many medical schools during the pandemic. But it didn't prove well as a suitable and quick alternative in resource limited countries because of multiple challenges encountered during online teaching and assessment, resolution of which is time borrowing.¹¹

As opposed to developed countries, online education in developing world is totally a new system for the faculty and students with very little or no exposure in

TRADITIONAL EXAM FORMAT

Day of Exam	Monday	Tuesday	Wednesday
Subject Assessed	Anatomy	Physiology	Biochemistry
Students to Sit	All	All	All



Hybrid Assessment by Subject Summation and Students' Segregation (HASSASS) Model.
Each group of student is assessed on different day.

recorded lectures, PowerPoint presentations and other learning assistance materials to the students. Also by reducing students' dependence on lectures by promoting active learning through self-directed techniques.

Assessment on the other hand is a reliable tool for ensuring competency of the students.⁴ But how to properly assess students is a major challenge for medical schools, educationists and governments.

Frequent postponements of exams have been notified multiple times by the medical schools because conducting exams seems difficult keeping in view the limited resources and problems mentioned earlier. But the ultimate sufferers are the medical students who are getting mentally more stressed because of the pendular exam stress and their precious time being wasted.¹¹

How to conduct theory exams?**The HASSASS (Hybrid Assessment by Subjects Summation and Students Segregation) model**

Traditionally the whole batch of students sit exam at one time with different subjects assessed on different days. Usually each batch consists a large number of students which traditionally gather in a single examination hall and take exam. But that is not possible now to curb them all in

the examination hall amidst COVID 19.¹⁷

The best possible alternative will be to club the subjects and prepare a single paper with proportionate questions from all the subjects and divide the students into different groups, each group to be assessed on a separate day. The questions for each group of students assessed on different days remains different in order to maintain transparency and avoid passing on of answers to the next group of students. Precautionary measures should be fully followed to prevent spread of infection.

The students may be assessed only in the mastery/key aspects of the course so that to avoid stress and anxiety among students related to the subjects assessed at one time.

It is better to complete the exams in a week's time than to postpone it for months.

How to conduct Clinical exams?**The SMART OSCE (Objective Structured Clinical Examination)**

Conducting clinical exams during pandemic has been a challenge for everyone.¹⁸⁻¹⁹ Objective Structured Clinical examinations were either postponed or cancelled by the medical schools.³ But assessment of clinical/practical part is an integral

component in medical education and cannot be ignored at any stage.

As a precautionary measure real patients may be dropped from exams. Instead, simulated patients, manikins, audio/video recordings of clinical signs/symptoms may be used to conduct OSCEs. This modified approach may be termed SMART (Simulations and Manikins Assisted by Recorded Technology) OSCEs. Particular importance must be given to place selection, circuit design, risk assessments, infection control measures applied and ancillary support from the information technology (IT) department.¹⁹

CONCLUSION

Teaching and assessment in developing countries during current pandemic is quite challenging. In order to prevent students' precious time from wastage, exams may be conducted on the prescribed models (HASSASS and SMART OSCE) which may prove suitable alternatives if not ideal.

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AUTHOR'S CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under:

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FA & NA: Acquisition, analysis and interpretation of data, drafting the manuscript, critical review, approval of the final version to be published

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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Authors declared no conflict of interest

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