



## Short Communication

## Conducting virtual geriatric medicine final professional examination during COVID-19 pandemic

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## ABSTRACT

Medical education is witnessing severe disruption worldwide due to the ongoing COVID-19 pandemic. But at the same time, it is important to provide continuity of teaching and timely certification assessment. Overcoming the obstacles to conduct the professional examination due to SARS-CoV-2 spread, we conducted the MD Geriatric medicine final professional examination in a hybrid virtual format. In addition to creating case repository for single system cases, we included geriatric cases with multiple combination of geriatric syndromes. The examinees were assessed by the external examiners virtually through a video conferencing platform. The end results were well appreciated by all key stake holders. The concerns, logistics and experience of conducting the MD Geriatric medicine examination in a virtual format are summarized here.

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### 1. Introduction

The National Program for Health Care of the Elderly (NPHCE) has emphasized the need for providing specialized health care of the older population. Training in Geriatric medicine is the need of the hour to meet the state initiatives of old-age care. Post graduate education creates specialists who will provide high-quality health care and, through research and training, advance the cause of science. The goal of MD Geriatric medicine programs, according to the Medical Council of India (MCI), is the provision of comprehensive health care and rehabilitation for older adults. To achieve this goal, it is essential to train the candidates and regularly assess them and provide timely certification assessments to ensure that training programs are completed on time.<sup>1</sup>

With the outbreak of the COVID-19 pandemic and the increasing number of cases in India, the academic schedules have disrupted. And with a substantial number

of medical students in their final semester of residency, the effect of coronavirus on medical education is considerable. Juggling coronavirus designated area duties with final exam preparations only added to the ongoing anxiety among resident doctors. Classroom gathering and bedside teaching, which are paramount in medical school, are vastly affected due to concerns of social distancing. The final professional examination was one such academic activity that was threatened by the coronavirus pandemic. Here, we summarize the disquiet, logistics and experience of conducting the examination in a virtual format.

### 2. Background

The Department of Geriatric Medicine, AIIMS, New Delhi, has 20 residents in training. The MD final professional examination is conducted once every six months. This year, five candidates were due to appear for the exam in June 2020. The examination includes a theoretical test, consisting of four papers, followed by a practical assessment. The practical examination, conducted over two days, includes objective structured clinical examination (OSCE), aimed to

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test the crisp knowledge of subject in a time bound manner (usually 25 questions in 50 minutes), bedside assessment of the examinee, aimed to check thoroughly the practical skills of clinical examination and ability of making differential diagnosis for a certain presentation and a viva-voce.

Each candidate is allotted four cases for bedside assessment, which includes three systemic cases (neurology, cardiology, respiratory and gastrointestinal system) and a geriatric-specific case. In the systemic cases, the candidate takes a detailed history and conducts examination of the patient, prepares a summary and comes to a reasonable diagnosis (or differential diagnosis) and formulates a plan for further management. Whereas, in geriatric-specific case, the candidate conducts a comprehensive geriatric assessment (including assessment of cognition, mood, nutrition, activities of daily living, mobility etc.), prepares a problem list and plans multidisciplinary management. Two internal and two external examiners assess each candidate. Conducting this type of examination requires in-person interaction between the candidate, patient, and the examiners.

### 2.1. Concerns

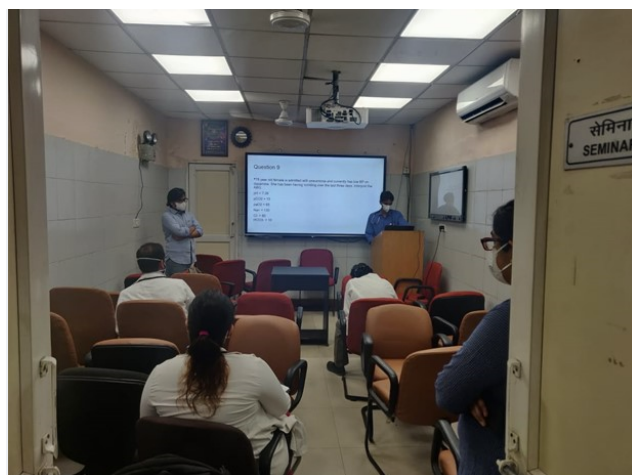
Initially, we were hopeful that the COVID-19 pandemic would subside, and the examination could be conducted in the usual manner. But, despite early lockdown and dissemination of information regarding social distancing, the number of cases kept rising in New Delhi. The examination was postponed from the usual date of the 1<sup>st</sup> of May with the need to plan and organize the entire examination safely.

Five candidates needed a total of twenty cases, which was not difficult during the pre-coronavirus era, due to ample patients attending the outpatient department and a high prevalence of multimorbidity in older persons.<sup>2</sup> But due to travel restrictions, limited OPD services and admission of only severely ill patients, this seemed to be a herculean task. Furthermore, due to the atypical presentation and asymptomatic stage of COVID-19 in older patients, it was hard to distinguish between infected and noninfected patients. Also, with reports suggesting that older adults were more vulnerable to the ill-effect of coronavirus,<sup>3</sup> having a patient physically appear was a major concern.

The two external examiners were not from Delhi, which made travelling to the examination hall impossible. Hence it was decided to make use of technology to conduct the examination. Though technology promises to connect people, this is dependent on multiple factors. This included, the availability of uninterrupted high-speed internet at the exam hall as well as with all four examiners, devices that provide good quality audio and video outputs and uninterrupted power.

The primary issue was the ability of all the cases to use technology at their end, to conduct the virtual examination.

With most of the older adults dependent on their sons and daughters for making phone calls, it was unimaginable to assume perfect connectivity with twenty cases. On the other hand, the introduction of a new format of the examination, the worry of effective history taking over a video call, and being able to perform well in a new set of ambiance were some of the issues giving butterflies to the exam going postgraduates. Other concerns were to ensure a fair representation of the cases across all the systems and their distribution among the candidates.



**Fig. 1:** Candidates giving the objective structured clinical examination (OSCE)



**Fig. 2:** Candidate interacting with the external examiners on screen, in the presence of internal examiner and coordinating senior resident hosts the meeting

### 2.2. Execution

The cases for examination were discussed with the faculty of the department, opinions such as the use of dummy

cases, similar to MRCP, use of videos and audiotapes in place of physical examination were brought up. It was decided that the history of patients would be taken from past admissions, along with details of physical examination. The cases were formatted in a digital form with detailed history, including past, medical, personal history and examination findings. Wherever possible patient videos, relevant pictures and audiotapes were used and the candidate had to interpret. Two sets of all cases were prepared. One version was for the students that contained only history and examination and the other was for the examiners, which contained additional details. The candidates were expected to go through the entire history and prepare a comprehensive summary with differential diagnosis at the end of history. And similarly summarise the examination findings with diagnosis, which includes anatomical localization, pathological process, probable aetiology and severity of the illness.

The geriatric cases had a slightly different format. In these cases, scenarios were presented, based on different geriatric syndromes such as an older female with diabetes, neuropathy, hypertension on multiple medications for the same (names mentioned in the case) presenting with recurrent fall. The candidate was expected to make a list of relevant history to be taken and focused examination for assessing the multifactorial cause of fall in the patient. Other cases included cognitive impairment, gait disturbance with a video, fall with a fragility fracture and severe cognitive impairment with caregiver stress. These scenarios were aimed at testing the students' holistic approach to an older patient with multimorbidity, frailty, polypharmacy and other geriatric syndromes.

A week before the assessment date, the case details were shared with all four examiners and their opinion was sought. Examination was divided in three parts. First and foremost, OSCE was conducted via Powerpoint presentation (Figure 1). Then each student was provided with their version of cases on individual computers and after the stipulated time, the candidate presented all the cases allotted to him/her in a single setting before all four examiners. The two internal examiners were present in person and the external examiners connected through video conferencing. During the examination, the norms of social distancing were followed. Only the candidate, two internals and one senior resident for coordinating the video conference were present inside the examination hall (Figure 2). The cases were displayed to all through screen sharing, which helped in guiding the discussion of history and examination. Finally, each candidate gave their viva-voce.

The hardware requirements were a computer, a web camera and a television screen in the examination room. Other requisites were high-speed internet connectivity to maintain video conferencing without any interruptions, and separate rooms with individual laptops and cases pre-loaded in them for each candidate, but without an internet

connection. A single computer was used in the examination room with the camera and microphone positioned to capture the process. The seating arrangement was such that the candidate and the two internal examiners were captured by the camera, and they were all facing the screen.

Before the examination, it was essential to check connectivity at our and external examiner's end. Two days before the examination, a mock video conference was held between the faculties of the department and external examiners. At the same time, it was essential to explain to the students about the newly developed format of the examination. The details of how the examination and the viva-voce will be conducted and the assessment procedure were explained to them. Any doubts or apprehension they had were resolved prior to the exam day.

Theory papers were scanned and transmitted to the external examiners over a secure platform by the examination section of AIIMS. At the end of the assessment, the examiners discussed the performance of each candidate, the score sheets and results were prepared and were digitally signed by the external examiners.

### 2.3. Experience

Despite some speculations and uncertainties regarding the conduction of the final professional examination, the virtual examination pattern was well accepted by all involved. Prior discussions and planning, mock conference, the involvement of all the examiners ensured that the examination was conducted smoothly. Help from the computer facility to provide equipment's and high-speed internet was important. Though the examiners were able to test the residents for core medical skills, not having an actual patient for detailed assessment were noted as a major drawback, but the use of videos, pictures and audio tapes helped overcome them to some extent. Overall, our experience suggests that virtual examination can be conducted, similar to in-person evaluation.

### 3. Source of Funding

None.

### 4. Conflict of Interest

None.

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