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Methodology Improvisations

Use of Distant Simulated Patients for Formative Assessment in Pediatrics

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The COVID-19 outbreak created a major dent in the lives of all. It led to the suspension of classroom examinations in all educational institutions. The Department of Pediatrics implemented a novel online examination using Distant Simulated Patients (SP) and received encouraging student feedback. Here is a model for continuing clinical practical examination and result declaration during the crisis.

Keywords: Distant SP (Simulated Patients), COVID, Examination, Pediatrics

Introduction

The COVID-19 pandemic disrupted medical education worldwide.[1] However, it also served as an opportunity to learn from and approach the problem with practical solutions.[2–4] We share our own experience of conducting online practical examinations of the final year MBBS students of Government Medical College and Sir T General Hospital, Bhavnagar, Gujarat, in the setting of COVID-19.

The first practical internal examination in Pediatrics for Third MBBS part two was conducted using an online video-conferencing platform named "Zoom Application" in the wake of restrictions due to the COVID-19 pandemic. The ward teaching sessions were also taken as webinars using the Zoom application by our department and by the experts during the nationwide lockdown. After obtaining permission from the concerned authorities, clinical practical examinations of these 43 students were taken using the Zoom application with the help of Distant Simulated Patients (SP).

Preparation

Students, faculty members, and assistants were trained to conduct the examination using the application one day before orienting themselves and avoiding technical glitches. We also identified simulated patients and prepared them for examination. We took technical support from our technical team for the smooth conduction of the examination using distant SP.

Required Resources

The resources required were training material, simulated patients along with cases having supportive investigations, an internet connection, a webcam, a laptop/ desktop, and an online platform (Zoom).

We prepared twelve sets of question slides using Microsoft PowerPoint 2010 to ensure every student gets a different set of questions. Each set contained eight slides. Two descriptive clinical case scenarios (one from Pediatrics and one from Neonatology) along with a simulated patient, a

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picture of an instrument/ drug, an image of an X-ray with relevant clinical information, an electrocardiogram with relevant clinical information, a spotter case, an image of a vaccine and a question on nutrition.

Distant Simulated Patients

These were simulated patients trained for different cases of neonatology (mother) and pediatrics for cases with a level of competency aligned with undergraduates. They had joined the Zoom link from the other side. Based on the case scenarios, students were allowed to interact with distant SPs.

Conduct of Examination

There were 43 students in this batch. They were divided into four groups; each student was given 16 minutes.

The entire batch was divided into four groups: three groups with eleven members and one with ten members. One trained examiner and one assistant were assigned to each group, along with distant SPs. Four examiners and four assistants used personal laptops to conduct the examination simultaneously for all four groups.

Candidates were asked to write their name followed by roll number as a displayed name in the Zoom application for easy identification. The examination was scheduled to start at 10 a.m., with the first two students in the waiting room. Once the first student's examination was over, the assistant removed them and admitted the next student. Simultaneously, the assistant instructed the next student to join the examination via the "WhatsApp" group.

Students had first to identify a clinical case scenario presented by a simulated patient or image on the PowerPoint slide presentation. Further, the respective examiner asked random questions on each slide to prevent questions from being passed on or to avoid repetition. Such viva voce examination on a slide would continue for a maximum of two minutes per slide and a maximum of 4 minutes per simulated patient, after which the examiner moved on to the next slide. Each slide carried a maximum of five marks, with a cumulative total of 40 marks for the entire examination. Each student got a total time of 16 minutes, and the total duration of the examination was three hours. The whole examination was mentored and monitored by the head of the department.

Feedback on conducting the examination was obtained from the students. All the students took the online practical examination for the first time. While 33 students (77.4%) believed online examination was as good as offline examination, seven students (16.2%) thought it to be better, and three considered it inferior to offline examination. The latter faced network issues or unforeseen technical issues. The results were compiled by the examiners, approved by the Department Head, and published the next day by WhatsApp group.

Lesson Learned

Necessity is the mother of invention. During this pandemic, we learned many new things, and Distant SP is one of them. Both faculty and students were satisfied with the use of distant SP, so we can use it in routine and will ask other departments to use it in the future. Studies with large sample sizes and different SP can be conducted in the future.



Figure 1.Examiners and Assistants Involved in Online Conduction of Practical Internal Examination at Government Medical College, Bhavnagar During Lockdown

Conflict of Interest: None

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