

## Medical student's perception and feed-back on virtual classes during COVID-19 pandemic: a multi-centric questionnaire based study

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### Abstract

**Introduction:** The quick turn to online platforms from contact learning during COVID-19 remained challenging for both teachers as well for students. This study was done with the aim to know the perception and feed back of undergraduate medical students on virtual classes during the pandemic. **Material & Methods:** This was a cross-sectional questionnaire based multi-centric study. Questionnaire in the form of Google form was distributed to the undergraduate medical students from various MBBS professionals studying in various medical colleges across North India. The completed questionnaire was collected and data was analyzed. **Results:** 40% students were from government, 52% from private medical colleges and 8% from AIIMS/ SGPGI. Majority of students were using mobile (63.7%) for e learning, using 4G internet (70.6%). Mostly the private medical colleges (73%) and only 4.5% government colleges were conducting the live video classes. Rest of them was providing the soft copy of the study material to the students. Based on the feedback by the students, about one third of the students (36.7%) appreciated the online platform in the current scenario as well for future in the combination with traditional classroom teaching.

**Discussion:** The e-learning was the need of the hour as every day is important for a medical student and the learning has to be uninterrupted. Although helpful, e-learning alone is a far cry from face-to-face interaction between students and teachers. Finding the right balance of class-room teaching combined with e-learning should become the norm for future students.

**Keywords :** e-learning, flipped classroom, blended learning.

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### Introduction

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The ongoing COVID-19 pandemic has led the majority of countries worldwide to implement emergency lockdown plans to limit the spread of the virus. The nationwide Lockdown has created devastating effects on every sphere of the economy including the education sector too. The government announced the suspension of all teaching activities in primary and secondary schools, followed by the closure of the

universities including the medical colleges too to prevent mass gatherings to mitigate the transmission of the virus. The outbreak made health educators to introduce and integrate information technology into the teaching and problem-based learning (PBL) methodologies. Many colleges adopted online teaching through Google classes, Zoom, Microsoft teams, Cisco webex etc. As there was quick turn to online platforms; the sudden transition from contact learning to exclusively distance learning remained challenging for both teachers as well as for students and required a lot of preparations and other efforts in a short time.[1,2]This questionnaire based study was planned to share the experiences and views of medical students that have dealt with the sudden transition from ordinary contact based learning to fully online learning.

**Methods**

**Study design**

This was a cross-sectional questionnaire based multi-centric study. Study population included one thousands undergraduate medical students from 1st, 2nd, 3rd professional part 1, 3rd professional part 2 studying in various medical colleges across North India. Any medical under graduate students from any MBBS professional from various medical colleges across North India at the time of data collection were considered eligible for the study.

**Data Collection**

A self-administered pre-validated Questionnaire in the form of Google form was distributed to the students through whats app with a brief explanation of the objectives of the study. Participation in the study was

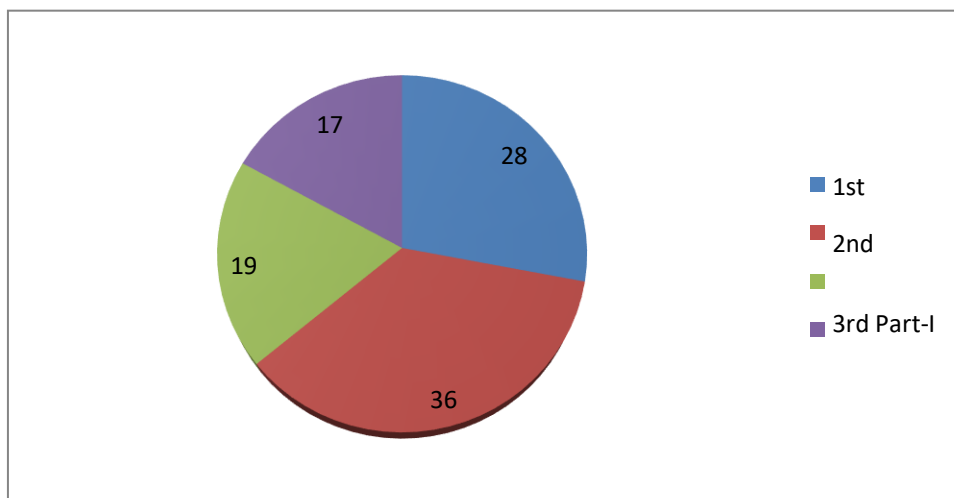
voluntary. Completion and return of the questionnaire was considered as the informed consent for participation in the study. No data related to identity including participant’s name, address etc was collected. The questionnaire was designed based on the literature review in this field and suitably modified to suit the current scenario.[2] It had multiple options and students were free to opt the best option. Students were also free to give their opinion on the current situation, the pros and cons and how to improve the ongoing model. The questionnaire comprised two sections, a section on demographic profile and a section on students’ perception of online teaching methodologies employed by their colleges and the resources they utilized to learn.

**Data Analysis**

The completed questionnaires were collected. All data was entered into an excel sheet and preliminary analysis and final write up were done. The demographic profile data and data on perception of the students on online teaching methodologies were used as independent variables. The results were expressed as percentage responses.

**Results**

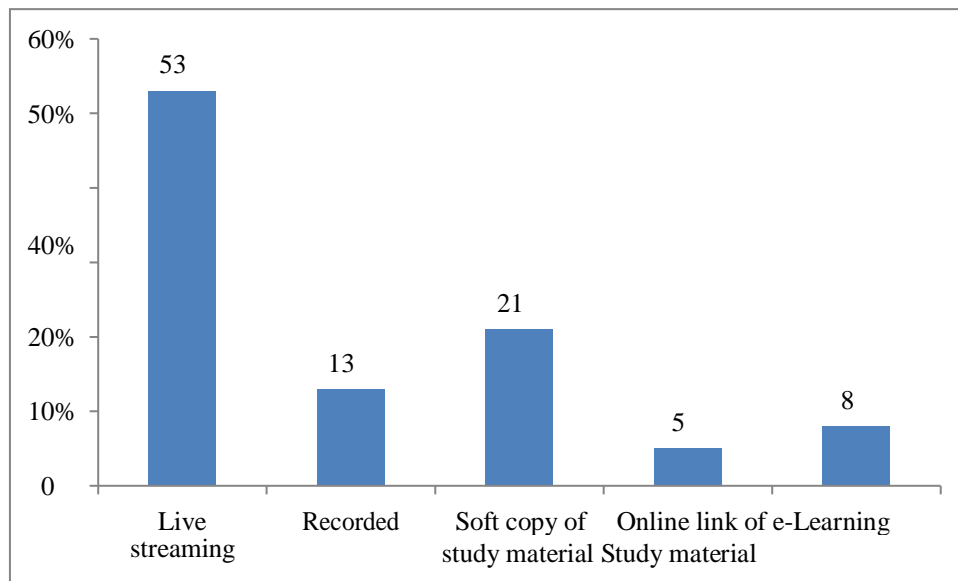
Responses from one thousands undergraduate medical students from 1st, 2nd, 3rd professional part 1, 3rd professional part 2 studying in various medical colleges across North India were collected for the study. Forty percent students were from government, 52% from private medical colleges and 8% from AIIMS/ SGPGI. The MBBS professional was distribution of the students is shown in Figure 1.



**Fig 1: Pie chart showing the percentage distribution of students based on their MBBS Professional**

Large number of students (97.3%) had basic knowledge of computer/laptop. Majority of students were using mobile (63.7%) for e learning while others were using laptop (22.2%), tablets (11.1%) and personal computers (3%). Majority among them were using 4G internet (70.6%), while rest of them were having 3G (11.4%) and broadband/ LAN connection (18%). Majority (96.9%) had not attended any online classes previously. Most of the colleges (60.5%) are

conducting online classes six days/week, while 18.3% were having 5 days/week classes, 15.1% had 2-4 days/week and 6.1% had less than 2days/week classes. Majority of students (62.6%) liked live video lectures on App while others wanted to have soft copy of the study material (27.3%), e books (4%) or topic discussion on whats app (6.1%). The method of virtual teaching adopted by various colleges is depicted in Figure 2.



**Fig 2: Bar diagram showing e- Learning method adopted by various medical colleges**

Mostly the private medical colleges (73%) were conducting the live video classes. AIIMS/SGPGI (43%) and government colleges (95.5%) were providing the soft copy of the material through google classes or whats app. Based on the feedback by the students, 36.7% of them appreciated the online platform in the current scenario as well for future also giving good rating (>7/10) which includes 17% first professional students, 37% second professional students, 26% pre-final year and 20% final year students. Among all professionals overall more of male students (66.4%) considered virtual classes for good rating than female students (33.6%) as male students found it more convenient as they could structure their own schedule with no need to get up early in the morning to rush to attend the classes and also they found it easier for shy students to participate.

However 42.6% students rated online classes as average (4-6/10) while 20.7% of the students rated low (<4/10) to virtual classes. The major reason of overall lower rating to virtual classes by students from all professionals was technical issues like low network coverage during the ongoing live classes, less

motivation and distractions at home. No hands on and no clinical postings was the major reason of lower rating of virtual classes especially by students from 1<sup>st</sup> and final year as stated by the students in their comments. Majority of the students stated that they are given the opportunity to clear their doubts (61.7%). They believed their interaction with the teacher was better than (36.2%) or as good as (32.3%) that during face to face classroom teaching. 83.9% students mentioned that they are getting online assignments, among which only 36.8% scored more than fifty percent.

### Discussion

Over the last few decades, there has been tremendous emphasis on the use of technology in medical education including online classes, simulations, flipped classrooms, mobile devices with apps etc. Facilitation of basic knowledge acquisition, improvement in decision making and improvement in psychomotor skills are among the major educational goals of using technology in medical education.[3-5] These

synchronous (online live interactions) and asynchronous (offline provision of study material) methods of e-learning have been in use over the years as a compliment to the traditional face to face method of medical education (blended learning).[6] COVID-19, over the past few months, has brought about serious implications in almost all aspects. The pandemic has also impacted the medical education to a great extent.[1] It is important to consider both the pros and cons of online learning to be better prepared to face the challenge as in the pandemic times as well as embrace the new opportunities. When the lockdown was announced, the students did not expect it to be a long break and did not carry their books home. But many colleges are giving students access to e-books and digital library. As gathering large numbers of students in a lecture hall is a high risk activity, PowerPoint files containing the lecturer's voice are made available on the faculty website. This was the need of the hour as every day is important for a medical student and the learning has to be uninterrupted, structured and aligned. With online learning platforms the study continued and students did not have to rush to attend their whole-class sessions and they could re-visit the lecture as many times as they wished. Medical education is a hands-on discipline as we know it is not merely about classroom learning but much of the syllabus and learnings revolve around clinical exposures. The pandemic has transformed the centuries-old, chalk-talk, face to face teaching model to virtual classes driven by technology. The lock-down and the social distancing norms brought by the pandemic emphasised the need and scope of e-learning strategies. Online classes are more flexible and convenient. Although helpful, this is, of course, a far cry from face-to-face interaction between students and tutors. You need to be highly self-motivated and creating a work space with minimal distractions can help immensely. The quick turn to e-learning platforms disrupted curricula, particularly for medical teachers less equipped to navigate the internet and the particularities of managing a classroom mediated by a screen and microphone. The challenges faced in the delivery of education are pushing policymakers to figure out how to tackle the digital divide while

ensuring inclusive e-learning solutions. Now days medical colleges have been working to transform pedagogy from traditional face to face learning to combination of traditional plus technology based and Problem-based learning, reducing lectures; using technology to enhance anatomy and laboratories; implementing team-facilitated, active, and self-directed learning.[5-8] Finding the right balance of in-person learning combined with digital platforms should become the norm for future medical students which might turn into a winning combination for medical students.

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