Original Article

Survey on Students Perception towards Online Assessment Conducted During COVID-19 Pandemic

Bharti Nigam [1*], Luxmi Singh [1], Sonal Gupta [1]

[1] ERAs Lucknow Medical College and Hospital, Lucknow, Uttar Pradesh, India.

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***Corresponding author:**
Bharti Nigam, ERAs Lucknow Medical College and Hospital, Lucknow, Uttar Pradesh, India.
Email: sona17.agra@gmail.com

Abstract

Background & Objective: The present study was undertaken to determine the perception of medical students towards the Online Assessment in North Indian medical university amidst COVID-19 Pandemic.

Materials & Methods: An online questionnaire was validated and distributed among 500 medical students of a tertiary care hospital in North India. The consent was taken and the responses were analysed anonymously. It consisted of standard Likert scale questions, close-ended and open-ended questions comprising a total of 22 questions. The questionnaire was grouped into 4 categories such as demographics, Comparison between traditional and online assessment, Advantages and limitations, and Acceptance of online assessment. The responses were analysed by using descriptive analyses.

Results: Out of the 500 students, 430 responded out of which 57.8 % were females and within 20-25yrs (86.8%). 54.6 % students found online exams less stressful, comfortable (58.13%) & within the COVID norms (75.11 %). Limitations included no interaction with patients (64.88%),social isolation (36.04%) & bad internet connection (80.9%). 50 % of undergraduate students preferred traditional assessment while 30% prefer blended method and least number of students preferred online assessment (20%).

Conclusion: The results show that undergraduate students prefer traditional than online assessment. The online assessment provides several limitations such as technical issues, no interaction with patients, etc. The student's responses provided the educators an insight into the online assessment and will help in improving the assessment method.

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Introduction

Assessment is a fundamental component of both learning and teaching as it frames what students learn and their certification (1). Broadly speaking, assessment refers to the processes employed to make judgments about the achievements of students throughout the study. It helps in improving the quality of education and the learning process (2).

Conventionally, in India, the traditional face-to-face assessment of the students involves written theory tests, practical examinations, and clinical examination of patients. The clinical skills are assessed by case presentations being given to the students which involve interaction and examination of the patient.

The SARS COVID-19, has shaken the entire mankind and has brought the world to a standstill. Several countries have gone into a complete lock-down to limit the spread of the Coronavirus disease 2019 (COVID-19) pandemic. In the wake of this global emergency, medical education and assessment have been existentially challenged in all parts of the world and the institutes have shifted towards the online mode of assessment. Due to the COVID-19 pandemic, medical students are being assessed in the online format such as zoom meets, google forms, online OSCE, etc. Online assessment or technology-based assessment refers to an efficient way of assessing the students' performance or learning in an online environment (3).

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There are various reasons for its overall acceptability; a few of them particularly applicable in the case of learners are its ease of use, flexibility, and better control over the environment. Online assessment allows the students to review their work or learning anywhere and it can provide immediate feedback to the students (4).

However, despite its multiple advantages, there are a few limitations of online assessment which are faced by the student as well as the teachers.

They include social isolation, lack of student-teacher interaction, reduced clinical demonstration, etc. internet connectivity has proved to be a major drawback in the online mode of assessment. Another major disadvantage of the online assessment is Academic dishonesty which includes identity theft and plagiarism. Students can easily log in to the test with another student's account which results in the wrong assessment of the students (5).

In the wake of this pandemic, the online assessment method has been opted by many medical institutes and our institution was no exception. The present study was carried out to find out the perceptions of undergraduate medical students about the online assessment. It was felt that it is essential to have an idea about the acceptability of this assessment among students, their perceived learning, and the hurdles they felt.

Materials and Methods

After approval from the institutional ethics review board, a cross sectional online survey via google forms was developed and conducted from August 2021 to September 2021. This study was carried out in accordance with the declaration of Helsinki (6) and included 500 undergraduate medical students of a tertiary care hospital in north India.

Questionnaire

A self-administered questionnaire was developed following a thorough literature search.

The questionnaire was validated by circulating it to other faculty members of the institute and experts in health professions education. After that, a pilot study was created and distributed among 100 medical students of the institute and the pilot data was collected and analyzed.

After the pilot study, the questionnaire was revised and corrected.

The final version of the questionnaire had a total of 22 questions. The questions were grouped into 4 categories such as demographics, comparison between face-to-face assessment and online assessment, advantages, and limitations of online assessment, and acceptance of online assessment.

The responses were sought using a 5-point Likert scale: 1- strongly disagree, 2- disagree, 3- neutral 4- agree, 5- strongly agree, close-ended questions, and open-ended questions.

For performing analysis, the number of students who responded with "Agree" and "Strongly agree" were pooled. Similarly, "Disagree" and "Strongly Disagree" were pooled.

Administration

The final version of the questionnaire along with the informed consent document (ICD) was emailed to 500 undergraduate (UG) medical students belonging to all the 3 phases of MBBS studying in our tertiary care hospital in north India. They were requested to read the ICD and respond to the questionnaire. The confidentiality of the students was maintained. Questionnaires with incomplete information or missing data were excluded from the analysis.

Statistical analysis

Descriptive statistics/analysis was used to examine respondents' characteristics and responses using frequencies and percentages. Categorical variables of the survey were described as frequencies and percentages.

Results

The survey questionnaire was administered to 500 UG medical students. Of these, 430 students consented to this study.

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Of these 430 students, 373 (86.8%) belong to the age group of 20-25yrs, 51 (12%) were less than 20 years and 6 (1.2%) were more than 25 years. The female was 252 (58.61%) and males 178 (41.39%). 109 (25%) respondents were from the 1st year, 121 (28%) from 2nd year, 111 (26%) from 3rd year, and 89 (21%) from 4th year.

Comparison between face to face assessment and online assessment

36% of the students agreed that setting up online assessment is, in practice, more difficult as compared to the traditional face-to-face assessment. But 41.5 % of students choose to remain neutral. A majority of the students (55.5%) believed that adherence to the schedule is strict in online assessment, compared to a small percentage (14.7%) of students who disagreed. Around half of the students (49.6%) found Face to face assessment more time-consuming but (57%) found it to be more organized as compared to online assessment. The majority of the students (38.1%) agreed that fairness in the conduct of tests can be ensured in online tests while 25.9% disagreed with it. (Table 1)

Table 1: Comparison between face-to-face assessment and online assessment (n = 430)

Item	Strongly disagree N (%)	Disagree N (%)	Neutral N (%)	Agree N (%)	Strongly Agree N (%)
Setting up of online assessment is, in practice, more difficult	28 (6.6%)	68 (15.9%)	178 (41.5%)	88 (20.5%)	68 (15.5%)
Adherence to the time schedule is strict in online	27 (6.2%)	36 (8.5%)	128 (29.8)	123 (28.7%)	116 (26.8%)
Fairness in the conduct of tests can be ensured in online tests	48 (11.2%)	63 (14.7%)	154 (36%)	83 (19.4%)	82 (18.7%)
Face to face assessment is more time consuming as compared to online assessment	35 (8.1%)	45 (10.5%)	137 (31.8%)	103 (24%)	110 (25.6%)
Face to face assessment is more organized	18 (4.3%)	35 (8.1%)	131 (30.6%)	112 (26%)	134 (31%)

Perception of Advantages and limitation of online assessment

As shown in table 2 more than 2/3rd students felt that online assessment can be conducted as per COVID - 19 norms. It allowed staying at home and provided a stress-free comfortable environment. Other advantages included that it facilitates recording of the examination and allows interaction with the examiner.

The major limitation faced by the students was poor internet connection followed by no interaction with the patients. Around 50% of students complained that video quality during assessment was bad. However, students who found online assessment to be more stressful and socially isolating were 30% and 36.04% respectively. A small number of students felt at a disadvantage due to a lack of technical knowledge. (Table 3)

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Table 2: Response of students towards the advantages of the online assessment (n = 430)

S NO	Variables	Number of students	Percentage (%)
a	Can be conducted as per COVID - 19 norms	323	75.11
b	Allows staying at home	250	58.13
c	Stress-free comfortable surrounding	235	54.6
d	Allows interaction with the examiner	103	24
e	Facilitates the recording of the examination	129	30

Table 3: Response of students towards the limitations of the online assessment (n = 430)

S no	Variables	Frequency	Percentage (%)
a	Less interaction with the examiner	176	40.93
b	No interaction with the patients	279	64.88
c	More stressful	129	30
d	Socially isolated atmosphere	155	36.04
e	internet connection	348	80.9
f	Video quality	223	51.8
g	Lack of technical knowledge	90	20.9

Practical issues

Around 41.8% of students agreed that there are more practical difficulties while giving written tests online based on theory Around 1/3rd of students agreed that online assessment facilitates cheating while a similar percentage of students chose to stay neutral. The majority agreed that adherence to the schedule is strict in online assessment. Around half of the students agreed that online assessment reduces exam stress.

Fifty percent of students consider traditional face-to-face assessment better than online assessment. Only 20% of students were in favor of the online assessment. A group of 30% of the students believed that a blended model of assessment which would comprise of online assessment as well as traditional face-to-face assessment would be a better mode of assessment.

Table 4: Response of students to practical issue in online class (n = 430)

Item	Strongly disagree N (%)	Disagree N (%)	Neutral N (%)	Agree N (%)	Strongly Agree N (%)
There are more practical difficulties when doing a written theory test online	27 (6.2%)	52 (12.2%)	171 (39.8%)	96 (22.3%)	84 (19.5%)
Adherence to the time schedule is strict in online	27 (6.2%)	37 (8.6%)	128 (29.8%)	123 (28.7%)	114.8 (26.7%)
Online assessments reduce the exam stress	27 (6.2%)	51 (11.7%)	150 (35%)	79 (18.3%)	123 (28.8%)
Assessments facilitate cheating	49 (11.4%)	67 (15.7%)	149 (34.6%)	90 (20.9%)	75 (17.4%)

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Table 5: Response of students related to better assessment method (n = 430)

S no	Type of assessment	Frequency	Percentage (%)
1	Traditional face to face	215	50
2	Online assessment	86	20
3	Blended method	129	30

Discussion

In the current pandemic situation, the online assessment is a replacement for the standard classroom assessment, its reliability, and feasibility is of concern, especially when it is used in medical institutes.

A study undertaken by Snekalatha et al. (2020) (7) showed that 63.9 % of the students think that online assessment adheres to the time schedule and 46.4% of them believed it to be stress-free and studied by Noradila Iskandar et al. (2021) (8) found the same result in 48% students. Our study resonated with their findings as the majority of the students believed that online tests adhere to the time schedule (54%) and are stress-free (54%).In particular, the benefits of convenience are in line with the flexibility, advantages of online learning and assessment, which were have been reported by earlier researchers {Appana, (9) 2008; Bączek et al. (10), 2021; Barbour,2013 (11); Basuony et al.,2020 (12); Harvey et al.,2014 (13)}.

According to the survey, we found that a majority of the students have felt lesser/no interaction with the examiner as well as the patient, which is one of the major limitations of online assessment in these COVID times. In a medical institute interaction with the patients is very important for the assessment of clinical skills of medical students.

Another very striking observation we made was that the majority of the students faced technical difficulties during the online assessment. Around 80.9% of students had trouble giving online tests due to the poor internet connection. Snekalatha et al. (2020) also found in their study that around 85% of the students found it difficult to access due to poor internet connection. The problem of poor internet connection also corroborated the findings reported in prior studies {Agung et al. (14), 2020; Barbour, 2013; Basuony et al., 2020; Berge, 2005 (15); Rice, 2006 (16)}. These studies indicate that the access issue surrounded the digital device as one of the main challenges of online learning and assessment. In our study (51%) students complained of poor quality of video and 20.9% lack of technical skills. Snekalatha et al. (2020) and Iskandar et al. (2021) found that 53% and 64% of students faced difficulties due to a lack of technical skills respectively. Likewise, the finding of students' confusion in technology is also consistent with studies {Bączek et al., 2021 (17); Muilenburg & Berge, 2005 (18); Niemi & Kousa, 2020 (19); Song et al., 2004}.

The data collected was confidential, a major chunk of students under the study chose to remain neutral for questionnaire items regarding cheating and whether the face-to-face assessment is more time-consuming. The majority agreed to the fact that it was easier to cheat (38%) and only a small percentage felt that it did not matter if there was cheating in a formative assessment. In the studies done by Snekalatha et al. (2020) (7) and Noradila Iskandar et al. (2021) (8), 43% and 36% of students respectively, think that online assessment facilitates cheating.

Despite the advantages of online assessment in these COVID times, 50% of medical students felt that traditional face-to-face assessment is a better method for assessing the medical students as compared to online assessment (20%) or blended method (30%). These findings corroborated with the finding of a study by Noradila Iskandar et al. (2021) (8) in which they found that 64% of the students preferred traditional assessment. In a study by Hussain et al. (20) in UAE, a large number of students felt that they

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are at a disadvantage with online assessment. Some of the studies such as a study by Howe EL (21), found that students are in favor of online assessment, and thus had a different opinion than our conclusion.

The students get first-hand experience of the patient's clinical findings and also learn about the doctor-patient interaction, the psychology of the patient and to be empathetic towards the patient. These all things cannot be assessed via the online mode of assessment as there are various limitations such as no interaction with the patient, technical difficulties, etc. which are pointed out by our students. These can pose a problem towards the assessment of the medical student.

Conclusion

The results from our study show that 50% of UG students prefer traditional assessment while 20% preferred online mode and the rest 30 % were in favor of the blended mode of assessment. By doing this study we came to know about the student's perception regarding online assessment. We also realized that our students are still not well acquainted with this new method and they need hand-holding by the teachers. The students' responses provided us an insight into their viewpoints, which will help us in improving the logistic of the assessment program. In the future, care would be taken to avoid the pitfalls in assessment and when there is a decline in COVID - 19, further studies can be conducted using the blended mode of assessment.

Conflicts of interest

The authors have no conflicts of interest associated with the material presented in this paper.

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Data availability

Survey on assessment of medical students during COVID-19

Email:
I. Basic demographics

1. What is your age?
_____

2. What is your gender?
- Male
- Female
- Other

3. Which year of MBBS course are you in?
- 1yr
- 2yr
- 3yr
- 4yr

4. How would you describe your information technology skills?
- High-
- Moderate
- Basic
- Nil

5. Have you ever participated in any type of online assessment before the pandemic?
- Yes
- No

6. What kind of methods were used to assess the students in your institute during COVID pandemic?

- Google forms
- Zoom meet/google meet
- WhatsApp video call
- Online OSCE
- ALL

II. Comparison between face-to-face assessment and online assessment

7. Using a five-point scale (where 1-stongly disagree, 5-strongly agree) rate whether
Setting up of online assessment is, in practice, more difficult than administering classroom tests.

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- 1
- 2
- 3
- 4
- 5

8. Using a five-point scale (where 1-stongly disagree, 5-strongly agree) rate whether Adherence to time schedule when the test is administered, is as strict in online tests as in classroom tests.

- 1
- 2
- 3
- 4
- 5

9. Using a five-point scale (where 1-stongly disagree, 5-strongly agree) rate whether fairness in the conduct of test can be ensured in online tests as compared to face to face tests

- 1
- 2
- 3
- 4
- 5

10. Using a five-point scale (where 1-stongly disagree, 5-strongly agree) rate whether face to face assessment is more time consuming as compared to online assessment.

- 1
- 2
- 3
- 4
- 5

11. Using a five-point scale (where 1-stongly disagree, 5-strongly agree) rate whether face to face assessment is more organized as compared to online assessment.

- 1
- 2
- 3
- 4
- 5

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III. Advantages and Limitations

12. What are the advantages of online assessment? Pick all that you consider true.

- Can be conducted as per COVID-19 norms
- Allows staying at home
- Stress free comfortable surrounding
- Allows interaction with the examiner
- Facilitates recording of the examination
- Any other

  _____

13. What are the limitations of online assessment during COVID-19. Pick all that you consider true.

- Less interaction with the examiner
- Disturbance due to technical problems
- No interaction with the patients
- More stressful
- Socially isolated atmosphere

14. Using a five-point scale (where 1-stongly disagree, 5-strongly agree) rate whether online assessments facilitate cheating.

- 1
- 2
- 3
- 4
- 5

- _____

16. Using a five-point scale (where 1-stongly disagree, 5-strongly agree) rate whether Online assessment reduces the exam stress.

- 1
- 2
- 3
- 4
- 5

17. Using a five-point scale (where 1-stongly disagree, 5-strongly agree) rate whether there are more practical difficulties when doing a written theory test online.

- 1
- 2
- 3
- 4
- 5

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IV. Acceptance of e-assessment

18. What were the technical difficulties faced by you during the online assessment?
- internet connection
- Sound quality
- Video quality
- Any other

19. Using a five-point scale (where 1-extremely unsatisfying, 5-extremely satisfying) rate that How satisfied are you with the following aspects of online learning?
- 1
- 2
- 3
- 4
- 5

20. After the COVID−19 pandemic, which type of assessment would you prefer?

- Traditional face to face
- e- assessment
- blended method

21. Rate the accessibility to the teaching staff during pre-assessment period, to clarify doubts and queries.
- Easily accessible
- Accessible on request
- Accessible on repeated requests
- Occasionally accessible on multiple requests
- Not accessible at all

22. What suggestions do you have for online assessment if it has to be continued after COVID- 19 pandemic is over?

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