PERCEPTION OF SECOND YEAR MBBS STUDENTS REGARDING ONLINE PATHOLOGY EXAMINATION DURING COVID-19 PANDEMIC

Pathology

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ABSTRACT
In this cross-sectional study, second MBBS students were oriented about the study. 105 students (third and fifth semester) gave written informed consent for participation in the study. Online examination was taken and after completion, a prevalidated Google questionnaire form regarding perception of students regarding online examination was circulated. The questionnaire consisted of various items like quality of online examination, benefits and barriers of online examination and future preferences. A five-point Lichert scale was used to record responses of students. 105 students responded to google form. Majority of students were satisfied with online examination whereas 48 students felt it should be in addition with conventional examination.

KEYWORDS
Online Examination, Assessment, Pathology , MBBS, COVID-19

INTRODUCTION
The novel corona virus disease-2019 (COVID-19) pandemic has caused serious global crisis. The rapid spread and high mortality of this virus is crucial(1).Therefore, to limit the spread infection the educational institutions have fully or partially closed their campuses and this has caused significant impact on teaching and learning. A recent survey by the International Association of Universities (IAU) of higher education institutions across the world (N = 424, 109 countries) showed that more than 90% of surveyed institutions have replaced classroom instructions by remote teaching or are in the process of developing solutions to continue distance teaching and learning(1).

The transition to online medical education has also seen a change in examination methods. The recent noteworthy success of Imperial College London's first ever online exam for final years has lead other medical schools to conduct similar online exam in order to ensure students remain engaged with their studies(2) and hence it's a challenge to medical institutions to manage assessment at a distance for higher education (3).

Assessment is of two type - formative and summative. Formative assessments provide useful feedback to students regarding their achievement of stated learning objectives; they often occur during the course of study, and generally are of low risks. The purpose of summative assessments is to determine the students achievements at or near the end of the course and contradicts the formative assessments. They include final professional or licensing examinations in medicine (4).

With the enormous changes in the educational sector, the use of online assessment has become more popular and widely adopted. There is no doubt that the coming academic year will be a challenge in terms of availability of resources like quiet environment to undertake the exam, adequate knowledge about various technologies, availability of high-speed internet, necessary devices to deliver the exam etc for both medical students and medical schools.

As it is rightly stated that "Necessity is the Mother of all Invention". So, can these necessities lead to further innovation in the medical curriculum and bring about revolutionary changes in the way medical education is delivered and assessed? In addition to the search of answers to above queries it also vital to know the shortcomings like IT knowledge and its acceptance amongst the students and the teachers, the appropriate set up to conduct these online exams on platforms like Zoom and Google meet, the availability of comfortable exam space for both student and examiner.

So, taking into consideration all the favourable and unfavourable aspects of online examinations, we conducted a survey with the intention to help the medical institutions to change its perceptions about online examinations.

MATERIAL AND METHODS
One hundred and five students IInd year M.B.B.S (students who agree to participate in the study were enrolled in our survey. Students who did not give consent to participate in the study were excluded) .

Procedure
After taking IEC approval, instructions regarding online theory and practical examinations were given to students   prior to scheduled date. Respective teachers prepared the word file and power point presentations for theory and practical examination respectively. For theory examinations, Multiple choice Questions , Short Answer Questions and Long Answer Questions were prepared.

MCQs question paper file was mailed to each student and 30 minutes were given to them to solve it and at the end of 30 minutes, each one of them mailed the scanned PDF file of their answer sheets to Departmental email ID. Immediately after MCQs session, the word file of question paper containing SAQs and LAQs were mailed to them as stated above and at the end of 2/2½ hours after MCQ examination, students were guided to mail scanned PDF file of their answer sheets.

For practical exam, students were divided in 4 batches. Four different power point presentations for 4 different batches were created. The power point presentations had include questions on spots having gross specimen, histopathology slides, hematology slide, clinical charts and instruments along with other exercises like hematology exercises, histopathology slide discussion and urine examination. Time was allotted to the students to solve their exercises and at the end of examination, they were asked to mail the scanned sheets.

A detailed questionnaire of perception of students about online examination was prepared. The questionnaire was validated by two faculty members and 10 second year M.B.B.S. Students.

The questionnaire was consisted of various items like Demographics, Gadget preference, Quality of online examination, Benefits & Barriers of online examination, Comparison between online & conventional examination and overall perception of students. A 5-point Lichert scale was used to determine the responses of the students. A Google questionnaire form was prepared and circulated amongst the students accordingly.

Prior distribution of questionnaire to the students, the details of study like purpose and procedure of filling of questionnaire were explained. The students were assured regarding voluntary participation in the study and data collected was non-identifiable & intended to be used for research purpose only. The data collected from Google form was compiled in the MS-Excel 2010 sheet and   analyzed subsequently.

RESULTS
The table no 1 shows the questions along with data comprising of opinions and responses given by students.

The various gadgets used by the students to give exams were mobile phones, laptop, computer and tablets. Majority of the students, 96 (91%) used mobile phones (smart phones)

Out of 105 students who were enrolled in the study , 83 (79.03%) students think that the examination instructions were clearly communicated to them .

Majority of the students 66.65% agreed that the time management was good and the exam started and ended on time. The technology used to conduct was user friendly according to 71.42% students.

74 students (77.47%) agreed that the examination team was able to solve the issues during the examination.

Majority of students felt that viva examination should have been taken

on online platforms like zoom, whats app or google meet.

86 students (81.89%) students felt that online examination saves travelling time to reach the examination centre.

50 students (47.61%) students felt that family distractions affects online examination and 78 students (74.28%) felt internet connection can create a problem in online examination.

Unavailability of isolated and dedicated space at home can create problem in online examination was agreed by 70 students (66.65%).

39 students agreed that online examination can replace conventional pattern , 40 students disagreed whereas 26 students had no strong opinion regarding this. 62 students were satisfied at the end with online examination, 10 students were not whereas 32 students were neutral.

Table 1

	Questionnaire				
A	**Quality of online teaching**				
	Strongly disagree	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
Were the exam information and instructions clearly communicated ?	2(1.90%)	3 (2.85%)	17 (16.19%)	58 (55.23%)	25 (23.80%)
The time management was good (Started on time and ended on time)	1(0.95%)	11 (10.47%)	23 (21.90%)	50 (47.61%)	20 (19.04%)
Was the technology used for online examination user friendly?	1(0.95%)	1(0.95%)	28 (26.66%)	54 (51.42%)	21 (20%)
Were you satisfied with the accessibility and availability of examination team to solve any issues during exams?	1(0.95%)	3(2.85%)	27 (25.71%)	51 (48.57%)	23 (21.90%)
Were you satisfied with conducting format of the online examinations?	1(0.95%)	9 (8.57%)	25(23.80%)	48(45.71%)	22 (20.95%)
Was marking distribution justified?	1(0.95%)	9(8.57%)	37(35.23%)	47(44.76%)	11 (10.47%)
B	**Future preference**				
Do you feel online examination pattern should be repeated in future for your junior batches?	13(12.38%)	21(20%)	31(29.52%)	29(27.61%)	11 (10.47%)
Will you like to recommend MUHS to include online examination in curriculum?	15(14.28%)	20(19.04%)	23(21.90%)	28(26.66%)	19 (18.09%)
C	**Benefits of online examination**				
Has the online exam made you feel anxious?	9 (8.57%)	25(23.80%)	42(40%)	27(25.71%)	2 (1.90%)
Do you feel that online examination saves the travelling time?	3 (2.85%)	2 (1.90%)	14(13.33%)	58(55.23%)	28 (26.66%)
Do you feel comfortable to take online exam?	4(3.80%)	3(2.85%)	27(25.71%)	48(45.71%)	23 (21.90%)
D	**Barriers of online examination**				
Do you feel that family distraction affects online examination?	8(7.61%)	18(17.14%)	29(27.61%)	32(30.47%)	18 (17.14%)
Do you feel that internet connection can create problem in online	4(3.80%)	6(5.71%)	17(16.19%)	48(45.71%)	30(28.57%)
Do you feel that an unavailability of isolated & dedicated space can create problem in online examination?	4(3.80%)	6(5.71%)	25(23.80%)	46(43.80%)	24 (22.85%)
Do you feel that having technical knowledge regarding gadgets and apps will enhance efficacy in online examination?	4(3.80%)	3(2.85%)	20(19.04%)	51(48.57%)	27 (25.71%)
Do you feel that there is a possibility of copying from book?	7(6.66%)	17(16.19%)	35(33.33%)	23 (21.90%)	23 (21.90%)
Did the power point presentation circulated have clear images?	1(0.95%)	7(6.66%)	29(27.61%)	47(44.76%)	21 (20%)
E	**Comparison of Online examination vs Conventional examination**				
Do you feel that online examination is better and accessible than conventional examination?	7 (6.66%)	22(20.95%)	33(31.42%)	29(27.61%)	14(13.33%)
Do you feel that online examination pattern can replace conventional examination format?	10(9.52%)	30(28.57%)	26(24.76%)	31(29.52%)	8(7.61%)
Do you feel that online examination should be in addition to conventional examination?	7(6.66%)	19(18.09%)	31(29.52%)	41(39.04%)	7(6.66%)
Do you feel that online examination will affect your marks?	3(2.85%)	8(7.61%)	42(40%)	37(35.23%)	15(14.28%)
F	**Overall perception**				
Do you feel that online practical examination should have been more interactive?	2(1.90%)	14(13.33%)	43(40.95%)	34(32.38%)	12(11.42%)
Do you feel that viva examination should have been taken on online platforms like Zoom, Google meet and Whats app call etc.	10(9.52%)	20(19.04%)	23(21.90%)	43(40.95%)	9 (8.57%)
Were you satisfied with online examination?	5(4.76%)	5(4.76%)	32(30.47%)	22(20.95%)	41(39.04%)

DISCUSSION

With the onset of COVID 19, along with the teaching and learning strategies the assessment strategies had to be redesigned to ensure a fair assessment system with minimal risk to all concerned stakeholders. At our institute, measures were taken to move the assessment system to an online platform. An analysis was undertaken to determine applicability, feasibility and quality of the assessment for an online formative examination of before its implementation.

In a study at Aga Khan University Hospital in Pakistan, all academic sessions like slide seminars and journal clubs were conducted virtually via Microsoft Teams during the pandemic. They held monthly resident exams through Google Docs. Students reported an overall positive

experience, and concluded the pandemic was an opportunity for new paths for residency education and discarding some traditional old methods.(6). In our study also 60% of the students were satisfied with the online examination. However, 46% of the students felt that it should be complementary to the conventional examination.

In our study, students were also from rural areas where proper availability of internet is not available, moreover frequent power cuts also affect the internet connectivity. Majority of MBBS students felt that network issues were a matter of concern in the conduct of online tests, similar to the findings by Kasarla RR et al (7) Snekalatha et al.(8)]. This limitation is   not faced in conventional methods of examination.

In the present study, majority students agreed that IT skills helped them to do online tests easier and faster, but lack of information communication and technology (ICT) skill did not affect performance in online tests, which is similar to the findings by Rajani R et al,(9) Attia M et al(10)

Majority of MBBS students in present study felt it was easier to cheat on online examinations than regular examinations, similar to the findings by Kasarla RR et al (7),Aisyah S et al,(12) Snekalatha S et al,(8) Mellar H et al(13). This limitation can be overcome by conducting online examination on various platforms like zoom where the students can be observed by an invigilator while writing the examination.

In our study, majority of MBBS students felt home environment was more distracting than the class room. There was unavailability of isolated and dedicated space at home which is important for any examination. Hence, home environment is not considered suitable place for taking online tests, similar to the findings by Kasarla RR et al (7) & Snekalatha S et al (8).

In present study, students felt online tests are as reliable as classroom tests, similar to findings by Kasarla RR et al (7) & Snekalatha S et al (8) .

In study conducted by Kasarla RR et al (7) Snekalatha et al,(8) Attia M,(10) and Kumar LR et al(11), majority of students appreciated the feasibility and quickness of feedback in the online MCQ-based assessment test, and the feedback had motivated them to study and helped them in learning process. In our study the multiple choice questions were written by students on separate paper which was scanned and mailed subsequently. These MCQs were checked after few days and feedback was conveyed to the students. So this delay could have been overcome by using software which gives scores immediately after examination.

In present study, 49.5% students thought viva examination should have been taken on online platforms like Zoom, Google meet and Whats app call etc which would have simulated the conventional practical examination to some extent.

CONCLUSION

This study addresses perception of students towards online examination in Covid 19 pandemic. It highlights the drawbacks of online examination that are practical challenges like network connectivity and unavailability of isolated space, whereas it overcomes the drawbacks of travel time associated with conventional examination.

As per our conclusion and the feedbacks given by the students, the best method would be to conduct the hybrid pattern which involves online as well as conventional modes of examination as and when required. This would benefit the students to get acquainted with the digital world for future as well as help them learn better technological skills.

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