Perception Of Undergraduate Students to Online Teaching During COVID-19 Pandemic At Tertiary Teaching Care Hospital

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Abstract: Background: The corona virus disease pandemic has created remarkable disruption in health system and medical education worldwide. On March 25,2020, the Indian government proclaimed state wise lockdown. During this pandemic, online classes became an educational change from conventional classroom teaching method. Our institute have conducted online classes during this pandemic. Objective of our study was to analyse undergraduate students' perspectives of online classes and compare this to traditional classroom teaching. Material And Methods: The pharmacology department at AMC MET medical college carried out a cross-sectional observational study. A total of 294 students (2nd MBBS and 2nd BDS) took part in the research. Students were given a pre-tested self-designed questionnaires to analyse the online teaching method. Result: In the present study shows that majority 107(36.3%) of the students believed that the course content provided in online classes was not helpful. We observed that majority 215(73.1%) of the students were dissatisfied with the practical knowledge provided in online classes. More than half 166(56.4%) of the students believed that online teaching is not helpful in various skill development. A total of 168(57.2%) students agreed to the statement that physical absence of teacher affects both teaching and learning. Only 85(28.9%) students believed that online classes are interactive. Conclusion: From above study we concluded that majority of students are not ready to adopt online teaching method. [Prajapati V Natl J Integr Res Med, 2021; 12(5): 42-47]

Key Words: Covid-19, Online Teaching, Perceptions, Pandemic, Traditional Teaching Methods

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Introduction: Coronavirus Disease first turned up in Wuhan, Hubei Province, China in December 2019. Pneumonia-like manifestations have been related with Covid. The infection spread colossally, bringing about an upheaval all through China and around the world. On March11, 2020, the World Health Organization (WHO) declared the flare-up of the innovative Corona Virus Infection (COVID-19) as a pandemic. It was initially known as a global public health threat until January30, 2020. Public health regulatory bodies have implemented several measures to control the disease (viz. social distancing, self-isolation, work from home, dedicated health facilities, etc.)[1]. People were warned to keep a safe distance from others, wash their hands regularly and wear mask[2].

When it refers to such lockdown, India is same as the entire globe[3]. The Indian government announced a countrywide shutdown on 25th of March, 2020 as a precautionary step to limit the occurrence of disease. COVID-19 era has affected unmatched disturbance to medical training and healthcare organizations all over globe[4]. Students were not able to finish their respective clerkships[5]. Clinical placements, which are a part of medical internship, were affected[6]. Moreover, students were asked to live on their residence and follow social distancing norms. Prior to the COVID-19 era, medical colleges had not used online teaching method. In India almost all medical institutions have adopted the conventional teaching style, which has gained global acceptance. Conventional teaching technique is essential aspect of medical education, with professors standing beside trainees and discussing topics with them in the lecture hall and in practical laboratories. Distant online teaching style is a feasible option to provide consistent teaching.

Amid Covid-19 emergency, online tutoring turned into an insightful move from conventional teaching methodology to the cutting-edge trends like webinars, Google classroom, and virtual classes. As a result, during COVID-19 outbreak, we had delivered online-teaching sessions for

practical and theoretical sessions for the first time at our institution. This web-based learning was begun with a target not exclusively to finish the course yet in addition to live in ceaseless touch with the trainees, which helps to maintain students' faith in their teaching staff during this outbreak. With this consideration, this online survey was developed with the intent of to analyse undergraduate students' perspectives of online classes and compare this to traditional classroom teaching.

Material & Methods: This cross-sectional survey was carried out by Pharmacology department at the AMC MET Medical College. After acquiring permission from the institutional ethics committee, the study was performed from February 6th to February 27th, 2021. This research has been conducted online. The information was kept confidential.

Undergraduate students (2nd M.B.B.S and 2nd BDS) were enrolled in this survey. A total 294 students were participated in study. A prior online introductory session was organized to explain about study details. All participants gave their informed consent to participate in the study. A questionnaire was prepared including details of demographic characteristics, devices used for online classes, students' perspectives for online classes in comparison to traditional class room and the questions on a choice of method for teaching and learning.

Based on a five-point Likert scale, the questionnaires were self-structured. We have created WhatsApp group for 2nd MBBS and 2nd BDS batch and we kept the google form containing questionnaire in that group. For simplifying the statistical analysis, we have categorized five-point category into agree, neutral and disagree. Data were analyzed by using Microsoft excel sheet and graph pad software.

Results: A total of 294 undergraduate students participated in this cross-sectional survey. A total of Gender distribution of the students was males with 95(32.3%) and females 199(67.7%) (Table-1). We found that majority 249(84.7%) of students used their mobile devices for attending online lectures, while 26(8.8%) and 19(6.5%) students utilized tablets and laptops respectively (Table-1). The mean age of the total group was found to be 20.93±1.70 years.

Table 1: Demography And Devices Used For E-Learning

Demographic Character And Devices Utilized For Study	N (%)
Males	95 (32.3)
Females	199 (67.7)
Tablet	26(8.8)
Mobile	249(84.7)
Laptop	19(6.5)

As per study Table 2 shows, response of students with regards to online classes. We found that majority 107(36.3%) of the students believed that the course content provided in online classes was not helpful. A total of 123(41.9%) students believed that the time allocated for online teaching was sufficient.

We observed that majority 215(73.1%) of the students were dissatisfied with the practical knowledge provided in online classes, while 137(46.6%) students believed that provided theoretical knowledge was sufficient. More than half 166(56.4%) of the students believed that online teaching is not helpful in various skill development. A total of 168(57.2%) students agreed to the statement that physical absence of teacher affects both teaching and learning. Only 85(28.9%) students believed that online classes are interactive.

Table 2: Perception Level Of Student With Regards To Online Classes On Likert Scale

Questionnaires	Agree No (%)	Neutral No (%)	Disagree No (%)	P value
You find the course content was helpful	90(30.6)	97(33)	107(36.3)	0.043
Time allocation for online classes was sufficient	123(41.9)	99(33.7)	72(24.5)	0.060
Practical knowledge provided in online classes was sufficient	34(11.6)	45(15.3)	215(73.1)	0.030
Theoretical knowledge provided	137(46.6)	88(29.9)	69(23.4)	0.120

in online classes was sufficient				
Professional assistance provided in online classes was sufficient	117(39.8)	95(32.3)	82(27.8)	0.031
Online classes help in skill development	58(19.7)	70(23.8)	166(56.4)	0.028
Physical absence of your classmates affects your active learning	167(56.8)	70(23.8)	57(19.4)	0.040
Physical absence of your teacher affects teaching and learning	168(57.2)	62(21.1)	64(21.7)	0.039
Online class save time and provide flexibility	160(54.5)	70(23.8)	64(21.7)	0.126
Online classes are interactive	85(28.9)	87(29.6)	122(41.5)	0.002

Table 3 shows the direct comparison between online classes and traditional teaching method. 78.9% students believed that traditional method is more suitable for solving queries. Also, 74.5% students believed that traditional method is more activated, disciplined and preferable for self-directed learning. Our study results showed that 67.3% students believed that traditional method is more compliant for overall learning. Table 2 and Table 3 show that the parameters have been drastically connected to the extent of effectiveness of online teaching. We found P value, <0.05 for majority of the parameters suggesting lacking in the effectiveness and perception for online teaching by students.

Table 3: Students' Responses And Significance Level

Questions	Online Method N (%)	Traditional Teaching Method N (%)	P Value
Method is more suitable for solving queries	62(21.1)	232(78.9)	0.028
Method more suitable for concentrated learning	85(28.9)	209(71.1)	0.012
Method you feel more activated, disciplined, and self-directed in learning	75(25.5)	219(74.5)	0.025
Method suitable to build up your interest in topic	71(24.1)	223(75.9)	0.009
Method you feel more personalized for learning	50(17)	244(83)	0.023

Figure 1 shows the response of students with regards to overall compliant learning method. 67% students believed that traditional teaching method is more compliant for overall learning.

Figure 1: Compliant Method For Overall Learning

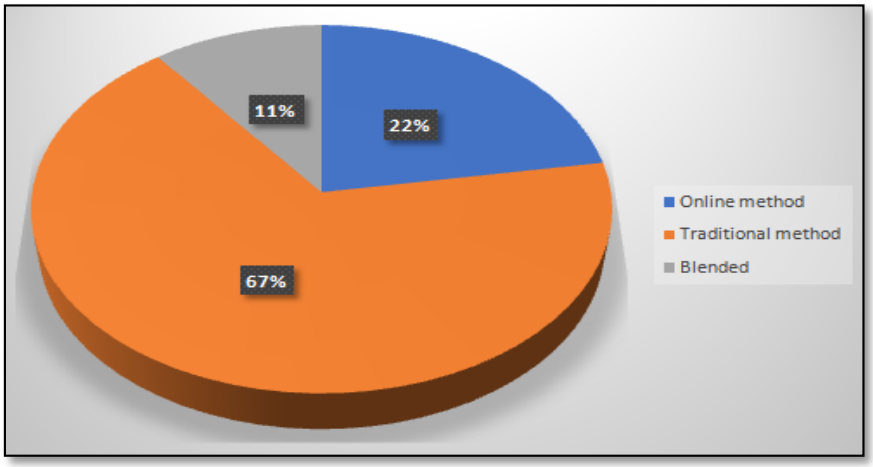

Table 4 shows the overall scoring for different questions included in our study. Maximum mean score (3.59±1.27) was found for the statement that physical absence of teacher affects teaching and learning. Whereas minimum mean score (2.03±1.07) was found for practical knowledge provided in online teaching.

Table 4: Overall Scoring Of Students' Response With Regards To Online Classes

Questionnaires	Mean Score	Standard Deviation	Score 1(%)	Score 2(%)	Score 3(%)	Score 4(%)	Score 5(%)
You find the course content was helpful	2.86	1.21	17.34	19.04	32.99	20.74	9.86
Time allocation for online classes was sufficient	3.20	1.14	9.86	14.62	33.67	28.57	13.26
Practical knowledge provided in online classes was sufficient	2.03	1.07	38.09	35.03	15.30	8.50	3.06
Theoretical knowledge provided in online classes was sufficient	3.27	1.15	9.52	13.94	29.93	32.31	14.28
Professional assistance provided in online classes was sufficient	3.10	1.16	12.24	15.64	32.31	28.91	10.88
Online classes help in skill development	2.45	1.23	26.53	29.93	23.80	11.22	8.50
Physical absence of your classmates affects your active learning	3.58	1.15	4.76	14.62	23.80	30.61	26.19
Physical absence of your teacher affects teaching and learning	3.59	1.27	7.82	13.94	21.08	25.17	31.97
Online classes save time and provide flexibility	3.51	1.21	7.14	14.62	23.80	28.57	25.85
Online classes are interactive	2.76	1.26	21.08	20.40	29.59	18.36	10.54

Score Scale: 1- Strongly Disagree; 2- Disagree; 3- Neutral; 4-Agree; 5- Strongly Agree

Discussion: This present pandemic has created a worst scenario and normalization of medical education appears far away. Keeping in mind with continuation of medical education to students, online classes were started for undergraduates in our medical college. We used a systematic approach to analyse the responses obtained from participants in this study.

Statistical significance was found between agreed and disagreed responses (P value<0.05) for the majority of the parameters in terms of student experience in online teaching (Table 2). Also, percentage of all the parameters and mean score were assessed (Table 2 and 4) which showed that effectiveness of online teaching style seemed lower than that of classroom teaching.

As per our study report, the mean age of group was 20.93±1.70 years. Almost all the students were aware about tablet, laptop, mobile like electronic gadgets and internet browsing. We found that, higher number of students were using mobile phone 249(84.7%) followed by tablet 26(8.8%) and laptop 19(6.5%). This result is analogous to that reported by Chaudhary et al in which 85% of students were using mobile phone[7]. Rafi et al. published a study have revealed that mobile phone (89%) was used most commonly followed by laptop (19.2%), tablet (4.9%) and desktop (3.6%) respectively[8]. This shows that utilization of mobile devices has been increased by students for online teaching. In the present study level of perception was assessed by using five-point Likert scale. 107(36.3%) students reported that course content was not useful, which is different to the study reported by Kaur et al[9]. Larger number of participants117(39.8%) found that the professional assistance provided was sufficient in online teaching and this pattern is analogous to Kaur et al study report[9].

Conversation between students and teachers is essential for learning.Teaching strategies, such as problem-based learning and active conversations in the classroom, have been proven to be helpful in inspiring and engaging the students to improve educational objectives[10]. According to a study done by Bettinger et al, e-learning might not compete with aspects of other learning, such as bilateral knowledge development between faculty and students, to some level[11]. As per our study 122(41.5%) students are disagree with the sentence that online classes are interactive.

Similar findings have been reported by Al balas et al[12]. A study done by Pei et al. observed that results of educational objectives from online and conventional teaching techniques have been similar, indicating that theoretical knowledge was not significantly impacted but practical skill may be affected[13]. In our study majority of students 215(73.1%) were found to be dissatisfied for online practical class, which is analogous to the study done by abbasi et al[14].

This might be due to constraints in the clinical/laboratory setting in terms of practical learning factor. It is a necessity that more doctors joining clinical practise at every year, but jeopardising quality can have a detrimental impact on health and safety of patients. This will not be ethical from a medical viewpoint[15]. We found that large number the students were not agreed with the sentence that online classes help to build-up skill. This study report is in accordance with the study reported by Kaur et al[9]. Interaction between student and faculty, as well as students themselves, are a crucial part of conventional classroom teaching. Fundamental teaching strategies include a student's capacity to ask a question, express their opinions and to disagree with a viewpoint. Students who were not able to create online relationships with other students, reported feeling alone and nervous, according to Haythornthwaite et al[16].

In our study students reported physical absence of classmates and teacher affects active learning process. Our study report goes in similarity with Al-Balas et al[12]. Reason may be the presence of the teacher in the classroom may increase their attentiveness and integration, allowing students to better comprehend the subject.

Also, presence of colleagues in a classroom breaks the boredom of the lecture and keeps them active. In our study students (54.4%) believed that online classes save time and provide flexibility, while the study done by Al-Balas et al showed that 63.8% of students believed online classes saves time and provide flexibility[12].

The reason may be due to online lectures do not pose any restriction of time and place and getting neatly dressed up, unlike the classroom teaching. We found that majority of participants were in favoured of conventional teaching method (67%) followed by online (22%) and blended approach (10%), while study reported by Vala et al showed that 59% of students preferred traditional classroom teaching method followed by 26% for online and 15% for both[17]. Blended teaching, which combines the benefits of online and classroom teaching should be considered to minimise the limitations of online teaching, Strength of our study was that we managed to collect sufficient responses. Limitation of our study was that we included only one medical and dental institute students to collect data. As a result, our study's findings cannot be generalised. Furthermore, we could have analysed and compare the academic success connected with online education to traditional teaching.

Conclusion: We concluded that majority of the students were not in favour of online teaching. Students seemed to be more inclined towards traditional class room teaching. Necessary steps should be taken at the institution and faculty level to upgrade the effectiveness of online teaching. In addition, more research work is needed to assess academic performance along with teachers' perspective and attitude on online teaching.

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