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STUDENTS PERCEPTION TOWARDS ONLINE EDUCATIONAL VS TRADITIONAL TEACHING METHOD OF ANATOMY DURING COVID -19 PANDEMIC

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ABSTRACT

COVID -19 pandemic imparted a huge impact on every aspect of human life including all levels of education, especially Medical education. Majority of Medical schools shifted to online teaching. The student's perception towards online educational Vs traditional teaching method of Anatomy during COVID 19 Pandemic. This study was conducted during the year 2020-2021 on first year medical and paramedical students. Data was collected and statistically analyzed. Flexible schedule, Convenient and Comfortable atmosphere are the main benefits of online classes. But majority of students prefer offline classes than online classes as the Network issue posed main factor.

KEYWORDS: Covid 19 Pandemic, Offline classes, Online classes, Student's perception.

INTRODUCTION

COVID-19 pandemic imparted a huge impact on every aspect of human life including all levels of education and especially medical education. The majority of medical schools shifted to online teaching world wide. Virtual learning became the only sustainable mode of education to complete their syllabus in stipulated time to match with academic calendar and also to keep the students engaged. Medical colleges also started online course during the wake of pandemic even for anatomy teaching. Any theoretical lecture can be delivered by online classroom method effectively but learning anatomy is more challenging as to understand Anatomy it requires 3 D visualisation and more active participation from students. Almost All educational institutions in India also made a transition to online teaching method.

However, the major concern is the quality of learning which is closely related with how well the content is designed and executed. Effectiveness of learning anatomy depends on how the content is curated to online environment and also to understand and address the constraints faced by students. This study is even more relevant considering that in India the system of online education has never been tried at this large scale and this is like a massive social experiment in the field of education.

The questions about the preparedness, designing and effectiveness of e-learning is still not clearly understood, particularly for a developing country like India, where the technical constraints like suitability of devices and bandwidth availability poses a major challenge to online education. In this study, we focus on understanding Student's perception and preference towards the online learning through an online survey by means of Google forms. We also explored the student's preferences for various attributes of online classes, which will be helpful in designing effective online learning environment. As these students after wanning of first wave were subjected to offline teaching and again colleges were shut during second wave. So these students have had both the experience of online and offline teaching (batch 2020 in India)

MATERIAL AND METHOD

A questionnaire-based study was done during Academic year 2020-21 after taking due permission by Ethical Committee of the institute. The Participants were first year medical students and paramedical students. (150 M.B.B.S., 100 dental, 60 bachelors of physiotherapy and 50 Nursing) of 2020-21 batch (total 360). A structured preliminary questionnaire was designed with the help of literature survey and informal discussions with the students who attended the online classes. The statements were prepared by discussion with expert anatomists and extensive review of literature to reduce researchers' bias.

Pre-testing was done with 25 respondents and their feedbacks were considered for designing the final questionnaire. Validation of the questionnaire was done by Internal faculty approval and Pilot testing. Students were given structured questionnaire carrying 25 MCQ question through Google forms. The link for Google form was sent to the students through the WhatsApp. After a gap of 10 days the link was repeated twice. In

this way 284 students consented to be the part of study and responded.

Data were collected on demographic features followed by learners' preferences, perception, advantages, constraints and suggestions.

Data obtained was statistically analysed and tabulated.

RESULT
Out of 350 students who were administered the questionaire 283 responded the study. Students were between the age group of 18-25 years. These are the findings of data collected by Google Forms:

1) Table 1: Demographic Details.

Socio demographic details		Percentage
Age	Less than 18	1.4%
	18-20 yrs	81.72%
	More than 20	16.84%
Gender	Male	24.6%
	Female	75.4%
	Others	Nil
Stream	MBBS	38.3%
	BDS	28.7%
	BPTh	24.1%
	Nursing	8.9%
Place of residence	Rural	17.3%
	Urban	77.7%
	Peri Urban	5%

Table 2: Basic Information about online classes.

Questions		Percentage
1) Did you attend any online course earlier?	Yes	93.6%
	No	6.4%
2) Did your college begin online classes in wake of corona pandemic?	Yes	96.8%
	No	3.2%

Table 3: Technical Requirements for online classes.

Questions		Percentage
1) Device used frequently for online classes	Desktop	0%
	Laptop	13.4%
	Smartphone	79.4%
	Tablet	7.2%
2) What was the source of internet ?	LAN	0%
	Mobile data pack	74.5%
	Wifi	25.5%

Table 4: Structure of online classes.

Question		Percentage
1)Online class format	1. Live online classes	40.4%
	2. Live classes that can be recorded	32.1%
	3. Uploaded recorded classes	14.1%
	4. Sending reading material with video content	13.4%
2)How often classes should be conducted ?	1. daily	90.3%
	2. twice daily	5.3%
	3. thrice daily	4.4%
3) What should be the suitable duration of an online class	1) 30minutes	20.7%
	2) 45 minutes	51.4%
	3) 1 hour	27.1%
	4) More than 1 hour	0.8%
4)How much time would you like to spend in a day for an online classes?	1. Less than 2 hours	20%
	2-4hours	57.9%

	4-6hours	21.1%
	4) 6-8 hours	1%
5) How much time do you need as a break between two online classes?	1) Less than 10 minutes	7.1%
	2) 10 minutes	25.3%
	3) 10-15 minutes	50.9%
	4) more than 15 minutes	16.7%

Table 5: Students' perception towards online learning.

Questions-		Percentage
1) What according to you is the better way of clarifying queries?	1) Live chat	32.1%
	2) Email	1.4%
	3) whatsapp	37.9%
	4) Both live chat & Email	28.6%
2) Online classes helped me to finish my syllabus on time as compared to offline classes	Strongly disagree	23.5%
	Disagree	27%
	Neutral	35.9%
	Agree	11.4%
	Strongly Agree	2.2%
3) My technical skills have improved since attending online classes	Strongly disagree	11.1%
	Disagree	16.4%
	Neutral	40.7%
	Agree	30%
	Strongly Agree	1.8%
4) what is the benefit of online class	1) Flexible schedule and convenient	55.1%
	2) More comfortable	25.9%
	3) Improves technical skills, More interaction	13.9%
	4) Great ability to concentrate, self-discipline and responsibility	5.1%
5) Do you think online class Is a success?	Yes	8.9%
	No	43.6%
	Maybe	47.5%
6) If No, what do you think is the factor affecting success of an online class?	Network issues	28.5%
	Lack of interest and poor attendance	25.1%
	Eye strain and headache due to harmful rays from the device	24.7%
	Technophobia and insufficient information by the teacher for the given competency	Rest
7) Which mode you would prefer for theory classes?	Online	24.1%
	Offline	75.9%
8) Which mode you would prefer for practical classes?	Online	2.4%
	Offline	98.6%
9) Has online classes inspired you to enhance learning methods?	Yes	22.6%
	No	37.6%
	Maybe	39.8%
10) As covid 19 continues to spread disrupting education system, what will you suggest to meet current situation?	Live online classes	47.5%
	Classroom teaching	30.5%
	Pre-recorded anatomy lectures	20.1%
	Curriculum schedule can be suspended	1.9%

Table 6: Suggestions by students of different steam to improve the online learning.

Classes should be live and duration should be 45 minutes
Like everything it has its own perks but its still distractive and not effective enough.
Live classes and topics should be given before handed so that student can read and attain class for better understanding
Classes must be conducted but practice tests should be taken at least once a week.
Should be more interactive

| |
|---|
| Live classes with Live test and revision of every topic |
| Offline classes are far better for understanding topics; be it demonstrations, theory or practical |
| I believe if offline classes are possible that is best but id dur to covid or some other reason offline classes are not possible then online is a good option but teachers should take a few offline classes as well once the pandemic is over or before the exams and teach students important topics of exam |
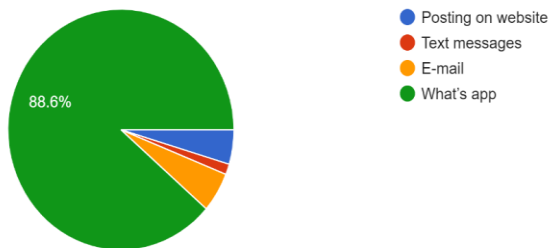
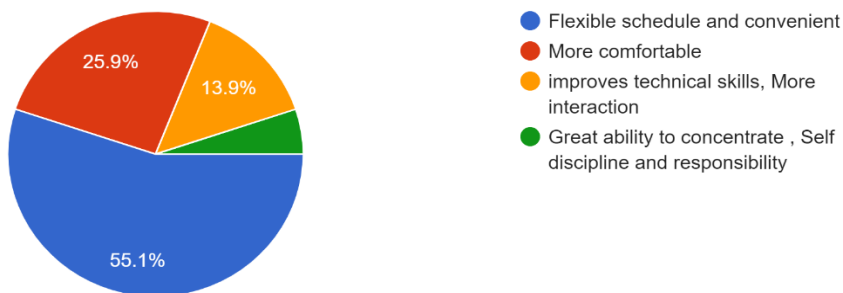**Fig 1: Preferred means of Class update.**
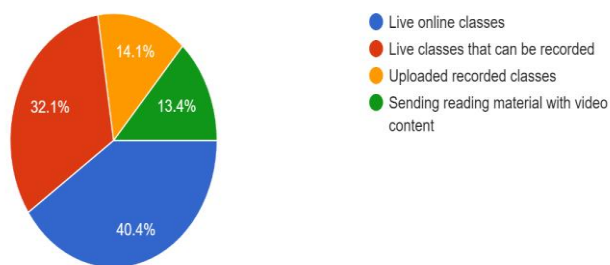
Fig 2: Students are Befitted by.

Fig 3: Benefits of online classes.
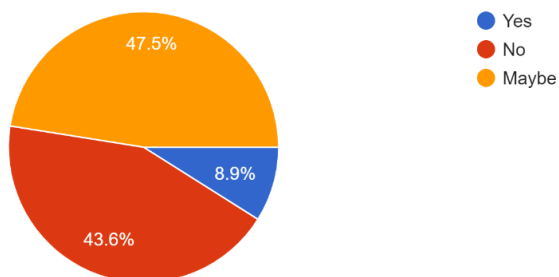
Fig4: Online class – A success?

- ● Network issues
- ● Poor learning environment i.e noise, distractors
- ● Lack of interest and Poor attendance
- ● Eye strain and headach due to harmful rays from the device.
- ● Technophobia and insufficient information by the teacher for the given competence.
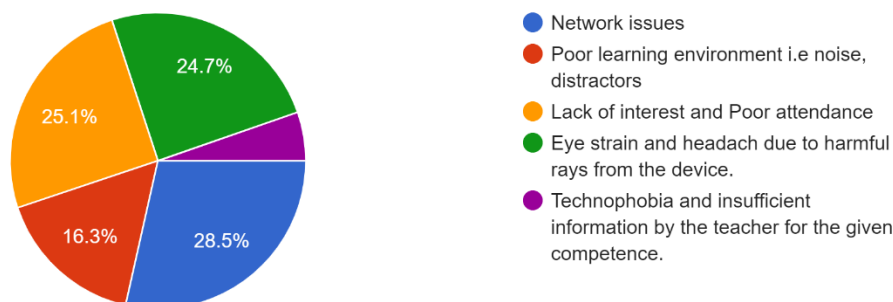
Fig 5: Factors affecting success of online classes.

- ● Online live anatomy lectures
- ● Prerecorded anatomy lectures
- ● Classroom teaching
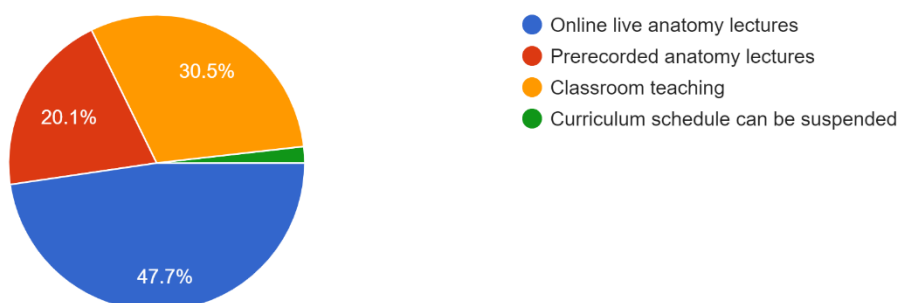- ● Curriculum schedule can be suspended

Fig 6: Mode of education suggested by Students if covid continues.

DISCUSSION

During Covid -19 pandemic many countries suffered disruption in studies. Online mode of education became the useful tool because of its cost-effectiveness, flexibility and possibility of providing world class education (Jeffcoat Bartley and Golek 2004, Gratton - Lavoic and Stanley 2009, De La Varre et al, 2010). During lockdown many educational institutions were forced to implement online education system. In a country like India this digital transformation was difficult.[1]

Many institutions switched to online education in the wake of Covid -19 pandemic so as to complete their syllabus in stipulated time frame as per their academic calendar. Around 93.6% students have had attended online classes earlier for their NEET UG preparations, NTSE exams or various webinars. Although many of the students who have attended online classes earlier found it difficult to adjust to adjust to new mode of learning. This finding is in accordance with that of Abbasi S.

Result of study indicates that 79.4% of students used mobile phones as their preferred device to study. Class updates were received and students resolved their queries on what's app and they used mobile data as their source of internet. Findings are same as that of studies by Asharani S K et al and Abbasi S et al. In countries like India with limited internet connectivity students were forced to use mobile data for online classes.[3,4]

40.4 % students say they are more benefitted by live online classes as compared to pre – recorded lectures. As live online classes provide the opportunities to interact with the teachers and give virtual face to face interaction feel. This finding is in line with the findings by Muthuprasad T et al. who also stated that online classes are effect provided that they are well structured and interactive with flexible curriculum supported with uninterrupted internet connectivity.[5]

Study indicates that majority of Students feel classes should be conducted daily, 45 minutes should be the duration with break of 10-15 minutes. And in a day 2-4 hrs should be for online classes. This finding is in accordance with the findings of Muthuprasad T. et al. and supported by Thompson's formula of work for 52minutes and break of 17 minutes.[5]

Results of this study indicates a flexible schedule, convenient and comfortable atmosphere are the main benefits of online classes. Online classes allow proper utilization of time apart from keeping safe at home environment and it allows approach to experts and specialists nationally and internationally so that learners can gain knowledge at their own pace and time. (Jane Pk).[2]

Majority of students felt online classes are not a success as they felt a lot of problems. Network issue posed the main factor.

Although online education provided the opportunity to the students to study at their own time and pace in comfortable environment, majority of them (75.9%) prefer offline classes for theory and 98.6% offline classes for practical. Most students preferred traditional method of teaching over online.

Suggestions were also taken from the participants to enhance the effectiveness of online classes, if at all we need to continue with online teaching in near future, students prefer live online classes above all means. Live online classes with student's handout posted earlier and frequent interactive topic wise test are few important suggestions by the students.

CONCLUSION
To prevent the spread of novel corona virus and also to complete syllabus in stipulated time frame many medical colleges in India also shifted to online teaching like other national and international institution. In this study we tried to figure out the perception of medical students towards anatomy teaching by online mode. The findings suggest that students preferred live online classes over pre-recorded lectures. Students appreciated well - structured live classes with interactive sessions more. And classes should be incorporated with frequent tests and assignments. Students gave preference to face to face offline classes over live online classes especially for Anatomy learning as Anatomy require 3D visualisation. Internet connectivity being the major drawback of the failure of online classes. The policy makers and the educational systems must address these problems before implementing online classes.

LIMITATION
This study was conducted in a medical college of Vidarbha region of Maharashtra India. Students of other region may differ in their opinion. Further we limited our study to perception of students towards online Anatomy learning. We did not take into consideration of perception of teachers.

Conflict Of Interest
No conflict of interest.

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