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IMPACT OF e- LEARNING PROGRAMMES ON LEARNING STATUS OF MEDICAL AND NON MEDICAL UNDERGRADUATE STUDENTS DURING COVID-19 PANDEMIC.

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ABSTRACT

Introduction: To prevent the further spread of COVID-19, The Government of India declared nationwide lockdown on 25th march 2020, including the temporary closure of educational institutions leading to educational disruption[3].The present study was conducted to assess the impact of this e- learning programmes on the learning status of medical and nonmedical undergraduate students. **Objectives**
1. To compare the differences in learning status of the medical and non medical graduates.
2. To assess the impact of e-learning programmes on the learning status of undergraduate students.

Methodology: A cross-sectional study was conducted from 20th-27[th]December 2020 among medical (129) and nonmedical students (156) of which were from 2 medical colleges and 4 degree colleges of Andhra Pradesh which were selected randomly. All the students who gave consent and attended the online classes during the lockdown period were included in the study. Data was collected by using pretested self designed semi-structured questionnaire. **Results:** A total of 285 students participated in the study. Among the medical students 86% (111), and in non medical students 94% (146) participated in e-learning programme. Google classroom and zoom app are the two most commonly used platforms among the students. Most commonly used gadget for online classes is Android mobile i.e around 91% in medical and 89% in nonmedical students. 92% of medical students said that online exams were conducted whereas in nonmedical students it is said to be 57%.About 85% of medical and 63% of nonmedical students spent less time for studying than normal situations. **Conclusion:** These e-learning programmes benefitted in the difficult situation to most of the students but the students unable to get the full benefits due to economic constraints.

KEYWORDS: covid-19, e- learning , learning status, undergraduate students.

BACKGROUND

The novel corona virus disease (covid-19) first case was reported in Wuhan city of china in December 2019.[1] The first COVID-19 positive case has been reported in India (Kerala) on 30 January 2020. As of 18 June 2020, India has reported 160,384 active cases, 194,324 recovered cases, and 12,237 death cases.[2] Rapid spreading of the COVID-19, lead to declaration of the disease as pandemic by the World health organization(WHO) on 11th march 2020.[3]

To prevent the further spread of COVID-19, The Government of India declared nationwide lockdown on 25th march 2020[4], including the temporary closure of educational institutions leading to educational disruption. Schools and colleges closures in a growing number of countries to contain the spread of COVID-19 are disrupting the education of millions students across the globe.

To limit the educational disruption, UNESCO has recommended certain measures which includes[5],

1. Examine the readiness and choose the most relevant tools based on the reliability of local power supplies, internet connectivity, and digital skills of teachers and students. This could range through integrated digital learning platforms, video lessons, to broadcasting through radios and TVs.

2. Ensure inclusion of the distance learning programmes that even the students with low-income backgrounds have access to distance learning programmes, if only a limited number of them have access to digital devices. Consider temporarily decentralizing such devices from computer labs to families and support them with internet connectivity.

3. Plan the study schedule of the distance learning programmes depending on the situation of the affected zones, level of studies, needs of students. Avoid learning methodologies that require face-to-face communication.

4. Provide support to teachers and parents on the use of

digital tools.

5. Blend appropriate approaches and limit the number of applications and platforms.

6. Develop distance learning rules and monitor students' learning process by designing formative questions, tests, or exercises to monitor closely students' learning process. Try to use tools to support submission of students' feedback

7. Define the duration of distance learning units based on students' self-regulation skills.

Hence the present study was conducted to assess the impact of these e -learning programmes on the learning status of medical and nonmedical undergraduatestudents.

MATERIAL AND METHODS

A cross-sectional study was conducted among medical and nonmedical students (B.tech, Degree) from 2 medical colleges and 4 degree colleges of Andhra Pradesh, and thecolleges were selected randomly.

Data was collected by using the Google forms consisting of pretested semi-structured questionnaire and the link for the above questionnaire was shared through the college Whatsapp groups. On total the data was obtained from 130 medical and 155 Nonmedical students.

Questionnaire was adopted from the previous study conducted by Kapasia N et al. (2020)[6] and necessary changes were made according to the study design.

Questionnaire covers the demographic details, knowledge regarding Covid-19, availability of the facilities required for online classes, learning status and information about online classes. The data were entered, checked by using MS Excel and then exported to SPSS for Analysis.

Ordinal Regression analysis was done by considering the level of understanding as dependent variable and previous history attending online classes, stream of study were taken as independent variables. Dependent variable was considered as ordinal and both the independent variables taken as nominal.
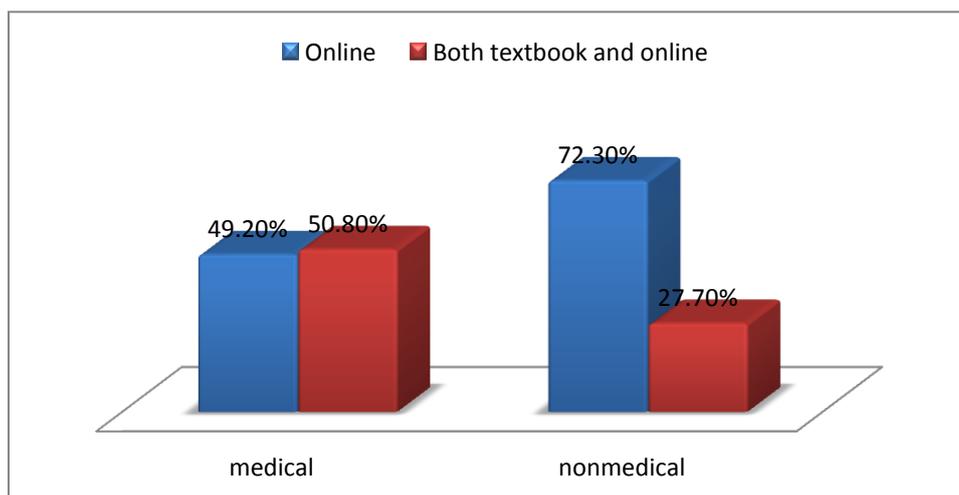
RESULTS AND DISCUSSION

Table 1: Distribution of the Demographic characteristics of study population.

VARIABLE	MEDICAL STUDENTS (%)	NON-MEDICAL STUDENTS (%)
Age		
19-21	89(68.5%)	128(82.6%)
22-24	41(31.5%)	27(17.4%)
Gender		
Female	76(58.5%)	57(36.8%)
Male	54(41.5%)	98(63.2%)
Residency		
Rural	42(32.3%)	111(71.6%)
Urban	88(67.7%)	44(28.4%)
Monthly income of the family		
Below 20,000	25(19.2%)	81(52.3%)
20,000-40,000	44(33.8%)	45(29.0%)
Above 40,0000	61(46.9%)	29(18.7%)

Socioeconomic and demographic characteristics

285 students participated in the study out of which 130 were medical students and 155 were nonmedical students. 68.5% of medical students, 82.5% of nonmedical students were of 19-21 years of age group. 67.7% medical students were belonged urban background and 71.6% of nonmedical students from rural areas. 46.9% of the medical students had family with income more than 40,000 rupees, 52.3% of the nonmedical students with family income of less than 20,000 rupees (Table 1).

Table. 2: Knowledge and Attitude of Study participants on Covid-19.

VARIABLE	MEDICAL STUDENTS (%)	NON-MEDICAL STUDENTS (%)
First heard about COVID-19		
Jan-20	64(49.2%)	65(41.9%)
Feb-20	33(25.4%)	39(25.2%)
Mar-20	33(25.4%)	51(32.9%)
Source of information		
News paper	8(6.2%)	18(11.6%)
Social media	100(76.9%)	96(61.9%)
Personal interaction	8(6.2%)	8(5.2%)
Television	14(10.8%)	33(21.3%)
Do you agree that lockdown will help to contain Coivd spread		
Agree	73(56.1%)	65(41.9%)
Neutral	45(34.6%)	51(32.9%)
Disagree	12(0.9%)	39(25.2%)

Knowledge and Attitudes of the study participants about Covid -19

Out of 130 medical students 64(49.2%) said to be first heard about Covid-19 in January- 2020and, 65(41.9%) nonmedical students also first heard about Covid-19 in the same month. Majority of the students source of information was social media platforms i.e., medical students 100 (76.9%), Nonmedical Students 96 (61.9%). Most of the students (Medical students-56.7%, Non medical students-41.9%) Agree with that, the lockdown will help in containing the Covid-19 spread (Table.2).

Fig.1: Source of education for study participants.

Compared to medical students (49.2%), nonmedical students (72.3%) mostly depended on the online programmes.

Table.3: Availability of facilities for online classes and information regarding online classesof study participants.

VARIABLE	MEDICAL STUDENTS (%)	NON-MEDICAL STUDENTS (%)
Separate room for study		
Yes	48(37%)	36(23.2%)
No	82(63%)	119(76.8%)
Educational program		
University lectures	66 (50.8%)	84 (54.2%)
private education centers courses	18(13.8%)	14 (9.0%)
self study using various educational sources	46(35.4%)	57 (36.8%)
Strength of Internet connection		
Poor	24 (18.5%)	56(36.1%)
Acceptable	60 (46.2%)	65(41.9%)
good	46 (35.4%)	34 (21.9%)
Attended online classes before covid-19		
Yes	13(10.0%)	49(31.6%)
No	117(90.0%)	106(68.4%)
Platform used for online classes		
Google classroom	92 (70.8%)	30(19.4%)
Zoom app	17(13.1%)	95(61.3%)
Go to meeting	6(4.6%)	9 (5.8%)
You tube	15(11.5%)	18(11.6%)
Exams conducted through online mode		
Yes	123 (94.6%)	88(56.8%)
No	7 (5.4%)	67(43.2%)

Availability of facilities for online classes and information regarding online classes

Only 37% of the medical students and 23.2% of the nonmedical students had the facility of separate room for studying. Only 35.4% medical and 21.9% non medical students had good internet connectivity. Past experience with attending online classes was in (13)10.0% of medicaland (49)31.6% of the nonmedical students. More than 50% of the students depended on the university lectures for studying. Google classroom was most preferred app for the classes among medical students, whereas Zoom was the preferred one among nonmedical students (Table.3).
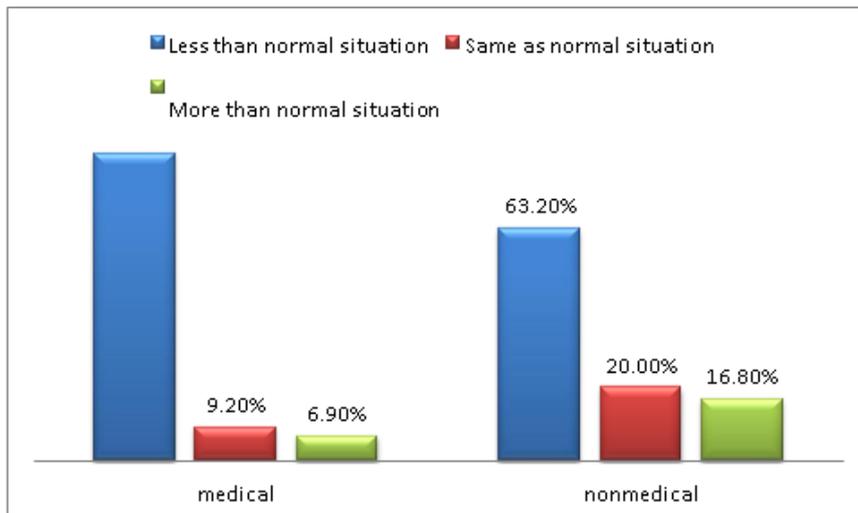.

Fig 2: Time spent for studying during lockdown.

Most of the students belonging to both medical (83.3%) and nonmedical (63.2%) able to spend less than normal situation for studying.
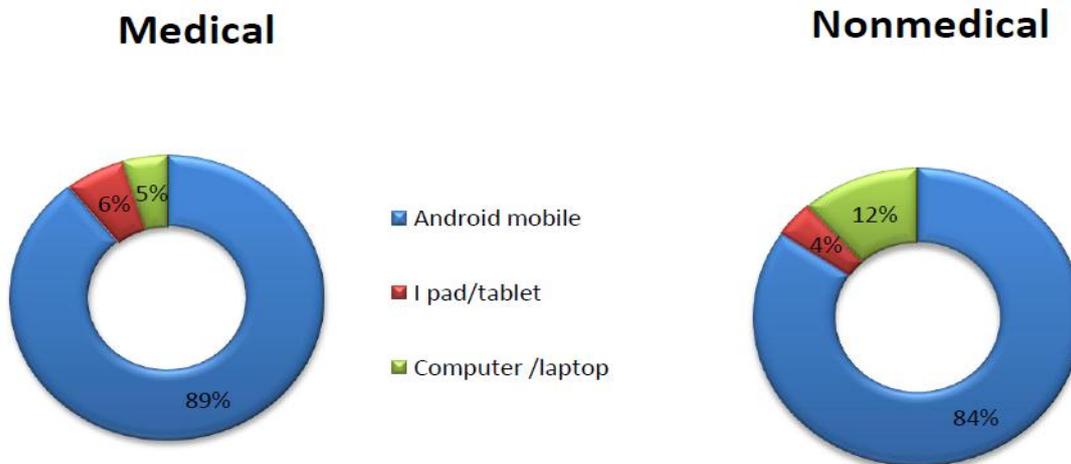

Fig.3: Gadgets used for online classes.

Android mobile is the most common gadget used for the online classes by both the medical(89%) and nonmedical (84%) students.
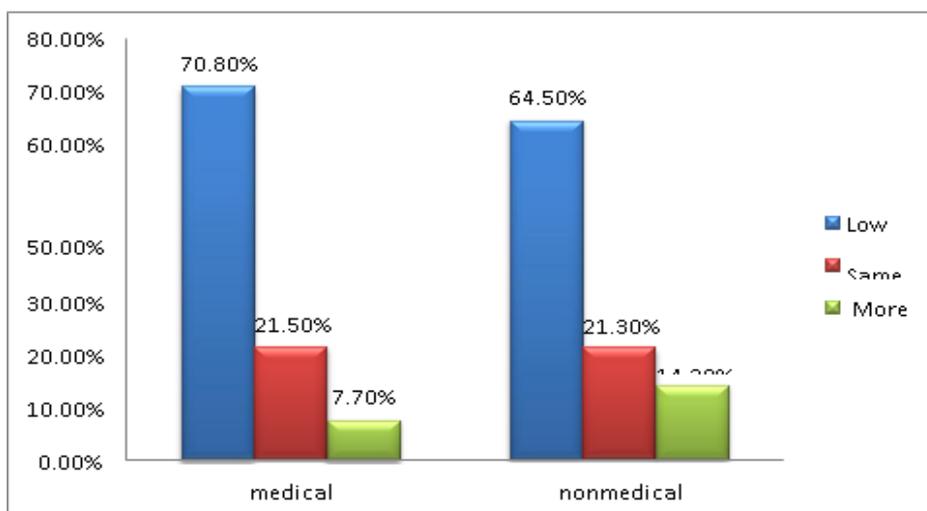

Fig 4: Level of Understanding with online classes compared to offline classes.

Level of understanding

Most of the study participants (Medical-70.8%, Nonmedical-64.50%) felt that the level of understanding of the subject is low compared with the understanding of subject with thenormal offline classes (Fig.4).

CONCLUSION

These e-learning programmes although they benefitted to most of the students during the lockdown where it is not possible to conduct regular educational programmes, they were unable to take fully gain from these online educational programmes because they had faced some difficulties which includes the poor internet facility, lack of time to study at home, lack of separate room or suitable environment to study.

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