

PERCEPTION ABOUT E- LEARNING AMONG UNDERGRADUATE MEDICAL STUDENTS AMID PANDEMIC COVID-19

Dr. H.R. Haribabu,¹ Dr. N. Gowdhaman, ²Dr. M. Thirumaran,³ Dr. Danasegaran. M⁴

1. Associate Professor, Department of Physiology, Kanyakumari Government Medical College, Asaripallam.

2. Associate Professor, Department of Physiology, Trichy SRM Medical College Hospital and Research Centre, Trichy.

3. Professor, Department of Physiology, Vinayaka Missions Medical College, Karaikal, VMRF(DU).

4. Assistant Professor, Department of Physiology, Vinayaka Missions Medical College, Karaikal, VMRF(DU).

Corresponding Author: Dr. M. Thirumaran,

Professor,

Department of Physiology,

Vinayaka Missions Medical College, Karaikal, VMRF(DU).

ABSTRACT

Introduction: COVID-19 has caused unprecedented disruption to the medical education process and to healthcare systems worldwide. To minimize the impact of lockdown, educational institutions including medical had to find another approach to teach students. In pandemic COVID 19, E learning has become a superior tool to teach the students. The present study, therefore, assesses the perception of medical students about the benefits and disadvantages of online learning particularly in terms of knowledge and clinical skills.

Materials and Methods: This cross sectional study was conducted by collecting the data from medical undergraduates of the first year to the final year. The students perception of E-learning was assessed using a structured questionnaire comprising of 13 items including basic demographic details. The data were collected through google doc form sent through email and WhatsApp after getting informed consent. The non-parametric Wilcoxon signed-rank test and Chi-square were used to compare E learning and face to face learning.

Results: *A total of 658 students participated in the study. According to students perception, the major advantages of E-learning were 'learning at your own pace' (59%) and the 'ability to stay at home' (54.9%) According to students perception, the major advantages of E-learning were 'learning at your own place' (59%) and the 'ability to stay at home' (54.9%). The majority of students reported e learning as neither enjoyable nor unenjoyable (44.2%).*

Conclusion: *The research concludes that students appear to prefer face-to-face teaching over e-learning. The students understand the benefits of E-learning, but choose improved mixed structured learning patterns to E-learning alone.*

Key words: *E- Learning, Knowledge, Clinical skills*

Introduction:

The world economy has been profoundly influenced by the lethal and contagious Corona Virus outbreak, also known as Covid-19. The education sector has already been shaking up by this disaster and this fear is expected to echo internationally across the education sector. As per the analysts' assessment, it is unclear if it will gradually be possible to return to normal teaching. ¹ This would have negative implications on learning opportunities, as the social distance is supreme at this point. ²

COVID-19 has caused unprecedented disruption to the medical education process and healthcare systems worldwide.³ The extremely infectious form of the virus has made it impossible for classes to begin as normal, thereby affecting the process of medical education focused on lectures and patient education.⁴ For a range of reasons, medical courses have been canceled by several colleges. One purpose is to straighten the curve to reduce personal interactions to alleviate and contain the COVID-19 distribution. A further consideration is to reduce the chance of infection, which is an understandable issue for medical students.⁵

To minimize the impact of lockdown, educational institutions including medical had to find another approach to teach students. Fortunately, current technology enabled electronic learning (e-learning)/online learning to be the core method of teaching the curriculum during the COVID-19 pandemic. Online learning can be defined as an instrument that can make the process of teaching and learning more student-centered, more imaginative, and much more versatile. Online learning is described as "learning experiences using different devices (e.g.

mobile phones, laptops, etc.) with internet access in synchronous or asynchronous environments."⁶

Through the rising in the use of online methods during COVID-19, their efficacy in teaching and learning from diverse stakeholders must be measured.⁷ The present study, therefore, assesses the perception of medical students about the benefits and disadvantages of online learning particularly in terms of knowledge and clinical skills.

Materials and Methods: This cross sectional the study was conducted in the Department of Physiology, Vinayaka Mission medical college, Karaikal from October 25 to October 30, 2020. This cross sectional study of all years from the first year to final year from our college and other colleges in and around the region. Institutional ethical committee approval was obtained before the study. ⁸The students perception of E-learning was assessed using a structured questionnaire³ comprising of 13 items including basic demographic details. The data were collected through google doc form sent through email and WhatsApp after getting informed consent.

Statistical analysis: The non-parametric Wilcoxon signed-rank test and Chi-square were used to compare E learning and face to face learning.

Results: Out of 658 participants,307 (46.7 %) were Males and 351(53.3%) were females. The age of the students ranged from 18 to 27 yrs (Mean Age 20.26 yrs +1.36). According to students perception, the major advantages of E-learning were 'learning at your own pace' (59%) and the 'ability to stay at home' (54.9%) depicted in figure 1 According to students perception, the major advantages of E-learning were 'learning at your own pace' (59%) and the 'ability to stay at home' (54.9%) depicted in chart 2. Statistically significant difference was noticed in terms of improving knowledge and clinical skills. It was observed that face to face learning was found to be most effective.

Figure.1

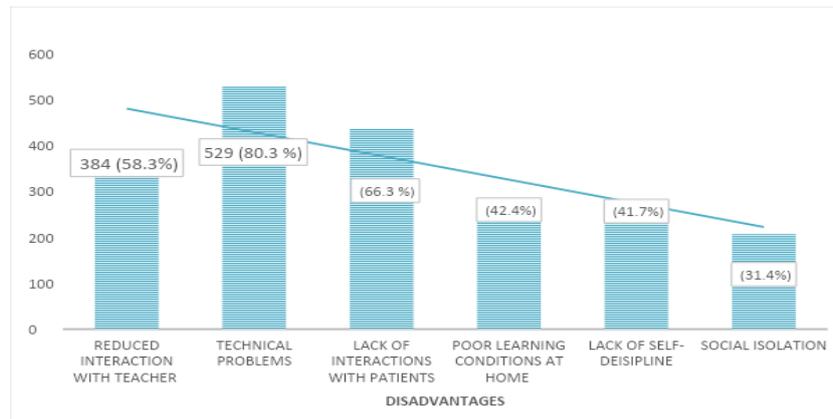


Figure.2

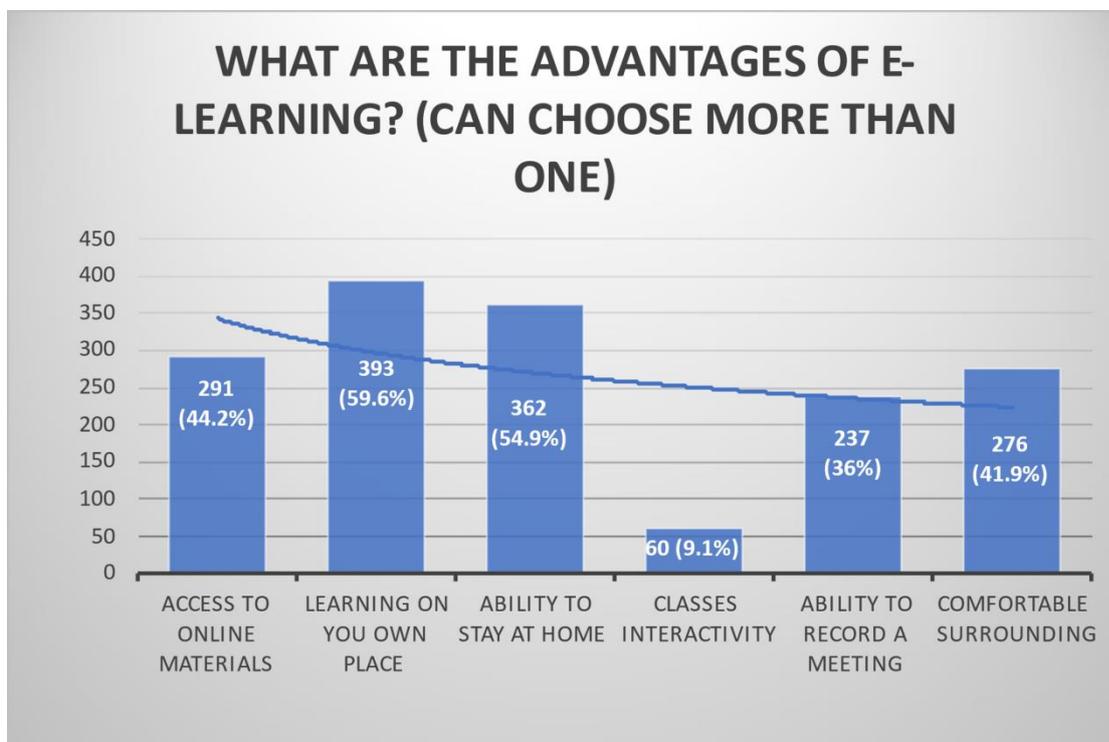


Table.1 Comparison of face to face and E learning in terms of knowledge and clinical skills.

| Effectiveness in terms of increasing knowledge | | | |
|--|---------------------|-----------------|--|
| Opinion of the student | Face to face, N (%) | E-Learning N(%) | Statistical analysis |
| Extremely ineffective | 34(5.2) | 48(7.3) | Wilcox Signed rank. Z=11.426 Chi square=1.060E2 |
| Ineffective | 69(10.5) | 147(22.3) | |
| Neither ineffective nor effective | 144(21.9) | 259(39.4) | |
| Effective | 222(33.7) | 191(29.0) | |
| Extremely effective | 189(28.7) | 13(2.0) | |

| | | | P=0.0001 |
|---|--------------------|------------------|--|
| Effectiveness in terms of increasing clinical skills | | | |
| | Face to face N (%) | E-Learning N (%) | Wilcox Signed rank. Z=17.824 Chi square=1.808E2 P=0.0001 |
| Extremely ineffective | 69(10.5) | 242(36.8) | |
| Ineffective | 64(9.7) | 211(32.1) | |
| Neither ineffective nor effective | 93(14.1) | 143(21.7) | |
| Effective | 125(19.0) | 44(6.7) | |
| Extremely effective | 307(46.7) | 18(2.7) | |

Table.2 How much did you enjoy E- learning classes?

| | |
|-----------------------------------|------------|
| Extremely unenjoyable | 55(8.6%) |
| Unenjoyable | 128(19.5%) |
| Neither enjoyable nor unenjoyable | 291(44.2%) |
| Enjoyable | 165(25.1%) |
| Extremely enjoyable | 19(2.9%) |

Discussion: Students were required to move to online learning in the COVID 19 pandemic. In our study, E-learning was found to be less effective than face-to-face learning in terms of effectiveness in increasing knowledge and clinical skills with p value < .05 which is statistically significant. The findings of our survey are consistent with previous studies in the conduct of students from many other countries.^{9,10}

As per the study conducted by Michel et al,⁸ In terms of views on the potential of the learning process to improve knowledge, there was no statistical disparity between face-to-face and online learning. In terms of increasing skills, e-learning has been deemed less successful than face-to-face learning.

Our study results are also comparable with the reports of Amir et al conducted during Pandemic COVID19. As per their survey, a lower percentage of students preferred e learning over face to face learning. However, students accepted that distance learning will encourage them to prepare learning materials before group conversation, a lower percentage of distance learning preferences found in this research.¹¹

Further our study results are also similar to the study conducted by Shete et al, on students perception on E learning during pandemic COVID.19 . According their study, Overall, only

7.2% of students favoured using e-learning alone 31.1 percent of students favoured studying face to face. And 61.7% of the majority chose a mix of face-to-face and E-learning as a helpful training tool.¹²

In contrary to the present study, various researchers reported e learning as most dynamic tool in teaching medical graduates. Various studies reported a statistically significant effect of E-learning on the learners' knowledge. In order to assess the impact of E-learning modules or courses on the learners' knowledge, multiple studies have analysed pre-test and post-test scores. The researchers observed that the information of learners was statistically increased.^{13,14}

In addition, Brooks et al,¹⁴ recorded that students who spent less time completing the online modules had on average low pretest scores and had insufficient progress in their knowledge of post-test scores relative to students who spent more time completing the modules.

Few studies revealed that e-learning is also effective in teaching skills to the learners. Preston et al, ¹⁵ reported that students who used the online resource for Physiotherapy E Skills Learning performed better on functional skills than the students who only had access to the normal conventional teaching were investigated.

As a moment distance mechanism for meeting the criteria of the COVID-19 pandemic, digital teaching has been introduced under its constraints and restrictions as a suitable option. Whether or not it will be effective in the future is a mute point. It really can make an effort to understand how online teaching-learning intervention attempts fulfil the need for a net balancing of cumulative repercussions.¹⁶

Conclusion: The present study concludes that students appear to prefer face-to-face teaching over e-learning particularly in terms of gaining knowledge and clinical skills. The students understand the benefits of E-learning, but choose improved mixed structured learning patterns to E-learning alone.

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