International Journal of Basic & Clinical Pharmacology
Patel AM et al. Int J Basic Clin Pharmacol. 2021 Oct;10(10):1191-1195
http://www.ijbcp.com
pISSN 2319-2003 | eISSN 2279-0780

DOI: https://dx.doi.org/10.18203/2319-2003.ijbcp20213750

Original Research Article

A perceptional analysis of online and offline mode of lectures in second year undergraduate medical students at SMIMER medical college, Surat

Antra M. Patel*, Kirti Saxena, Arvind Singh Panwar

Department of Pharmacology, SMIMER, Surat, Gujrat, India

Received: 16 August 2021
Revised: 07 September 2021
Accepted: 09 September 2021

***Correspondence:**
Dr. Antra M. Patel,
Email: antrapatel8295@gmail.com

ABSTRACT

Background: The COVID-19 pandemic demanded lockdown to control the spread of disease, inevitably medical colleges are also affected and online mode of teaching has become a solution for continuity of teaching in medical colleges. The main purpose of study to identify perception of medical students towards online and offline mode of lectures by parameters as follows: knowledge, understanding, skills and methodology.
Methods: This was a prospective, cross-sectional study with duration of three months. A well- articulated set of questionnaires based on knowledge, understanding, skills and methodology parameters will be circulated among the second-year undergraduate medical students from SMIMER, Surat.
Results: About 82% of the students perceived that offline mode of lectures provide more information of subject and helps with better retention of knowledge. Only 21.5% students were in favour of online mode for being able to understand lecture content. For the development of the practical skills and clinical training, 97% of the participants favoured offline mode. However, 67% of the participants believe online mode of lectures save their time and work well with their schedule.
Conclusions: Majority of students perceived that offline mode of lectures provide more information of subjects and better retention of knowledge. According to them offline mode of lectures is easy to understand and improved conceptual thinking. For development of clinical and practical skills offline mode of lectures is mandatory. But, majority of students perceived that online learning provide flexibility in participation of lectures and time saving method.

Keywords: Perceptional analysis, Online lectures, Offline lectures, Medical students

INTRODUCTION

The Coronavirus disease 2019 (COVID-19) outbreak which was originated and restricted only in China until February 2020 had suddenly altered into a global pandemic disease from 11th March, 2020.[1,2]

A large part of the world experienced a lockdown that closed educational institutions affecting more than 70% of the world's student population. Physical classroom teaching was switched into virtual classes quite fast usually few days at university level.[3] Online learning is a virtual learning system which integrates internet connection with teaching and learning process.[4] The interaction of teaching and learning activities can be carried out from the distance with the help of internet and online media.[6]

Advantages of online lectures include flexibility in participation, ease of accessing tutorials or updating materials and documenting evaluations and assessments.[4] Despite all the benefits of online lectures, there are several negative aspects that may be encountered, including social isolation as the student studies alone, faculty members not

providing individualized instruction for specific learning needs, cost, technical problems, poor instructional design, and the use of technology for entertainment rather than education.[4,5] The literature describes additional barriers that faculty members may encounter when re-designing a traditional classroom lecture into a web-based curriculum, including additional time needed for course preparation; excessive one-on-one faculty-student communication (e.g., e-mails, telephone calls, etc); and lack of technical expertise needed to design quality instructional/curricular components.[4,10]

METHODS

A prospective, cross sectional, study was conducted on undergraduate medical students of tertiary care hospital, SMIMER Surat for the duration of three month, February-April 2021. The sample size collected in study was consist of responses received within the data collection period.

All the students who were studying in second year of their undergraduate program and have exposure of both online and offline mode of lectures were included in this study. Those students who were eligible for this study but were not willing to give their consents were excluded from the study. A written consent was attached with the questionnaire, and was presented to the students before the beginning of the survey. In order to grasp the perspective of undergraduate medical students regarding the mode of delivery of the lectures, the feedback form, which contains the brief description about study and well-articulated set of questionnaires, was circulated among students.

All the necessary approvals were given by the institutional ethics committee of SMIMER-Surat, India before the commencement of study. Descriptive statistic was used for statistical analysis. It is to be noted that sum of the percentage did not always add up to 100% for the questionnaire with multiple responses.

Questionnaires will be as following:

Section 1: Knowledge related questionnaire

Which method makes interaction with teacher easier? Which method provides more information of subjects? Which method provides better retention of knowledge? And which method is more engaging?

Section 2: Understanding related questionnaire

Which mode of lectures is easy to understand? Which method enhanced mutual understanding between teachers and students? Which method improved conceptual thinking? And which method gives you more confidence to crack your exams?

Section 3: Skills related questionnaire

How familiar are you with e-devices? In which method are you more comfortable at asking your doubts? Which mode of lecture enabled you to do your practical assignment and project effectively afterwards? And which method develops your practical/clinical skills more?

Section 4: Methodology related questionnaire

Do you feel that online lecture platforms are easy to use/ navigate? Should online learning be continued as regular study even after COVID-19 era? Do you feel computer literacy plays a role in understanding online mode of lectures? Which method saves your time and works well with your schedule? Which method makes you attend more classes? Do you think mixed method of learning using both traditional and online teaching is the best approach to maximizing learning efficacy? What difficulties did you face during online lectures? And what difficulties did you face mainly during offline lectures?

RESULTS

Total 232 students from second year participated for the study and the response rate was 100%.

Knowledge

According to knowledge prospects of learning, out of 232 students 90.43% of the students were in favour of believing that, offline mode of lectures is easier for the student-teacher interaction. Moreover, almost 82% of the students perceived that offline mode of lectures provide more information of subject and helps with better retention of knowledge compared to online lectures. The engagement level in offline mode of lecture was considered higher as compared to that of online mode as 85.3% of participants voted in favour of offline mode (Table 1).

Table 1: Knowledge related questionnaire.

Section 1: Knowledge related questions	Online lectures (%)	Offline lectures (%)
Which method makes interaction with teacher easier?	10	90
Which method provides more information of subjects?	17	83
Which method provides better retention of knowledge?	18	82
Which method is more engaging?	15	85

Understanding

The ability to understand lecture content in offline mode of delivery considered easier as compared to online mode as only 21.5% students were in favour of online mode. Besides that, 93.1% of the participants feels that offline

mode of study provides better mutual understanding and engagement between students and teachers. Apart from that, nearly 84% of the participants believe that offline mode of lectures gives better grasp over conceptual thinking and enables to boost higher level of confidence for the examinations as well (Table 2).

Skills

For the development of the practical skills and clinical training, 97% of the participants favoured offline mode of lectures than that of online mode (Table 3).

Methodology

Even after COVID pandemic, 75% of participants prefers to endorse offline mode of lectures as 40% of the participants finds online lecture platform difficult to navigate and 60% of the participants feels that online mode of lectures requires advance level of computer literacy. However, 67% of the participants believes online mode of lectures saves their time and works well with their schedule (Table 4).

Table 2: Understanding related questionnaire.

Section 2: Understanding related questions	Online lectures (%)	Offline lectures (%)
Which mode of lectures is easy to understand?	22	78
Which method enhanced mutual understanding between teachers and students?	7	93
Which method improved conceptual thinking?	16	84
Which method gives you more confidence to crack your exams?	16	84

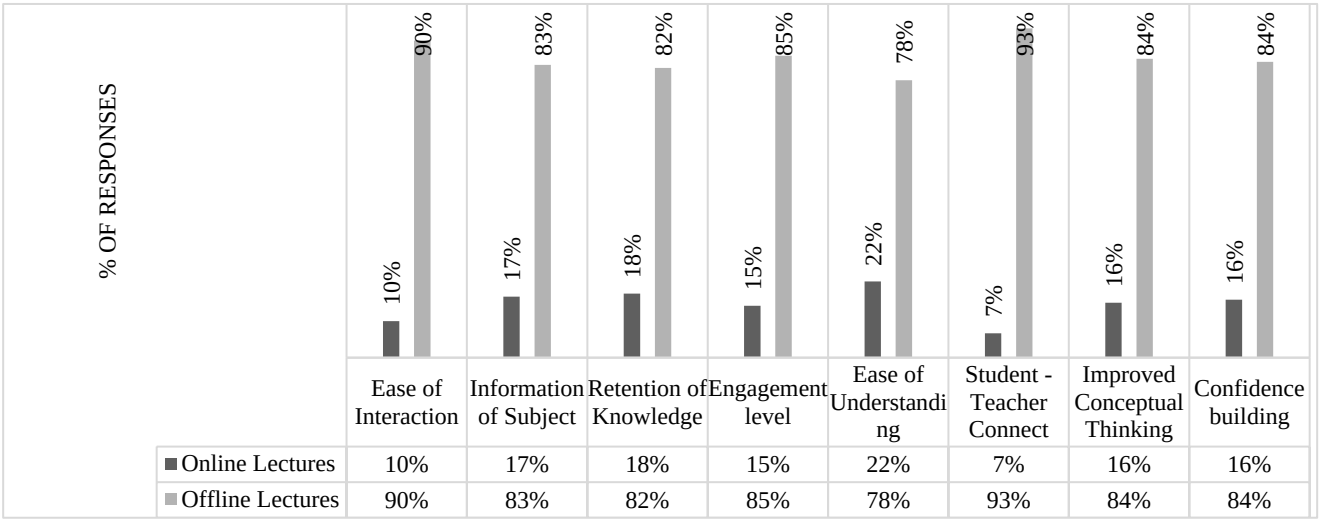

Figure 1: Knowledge and understanding related responses.

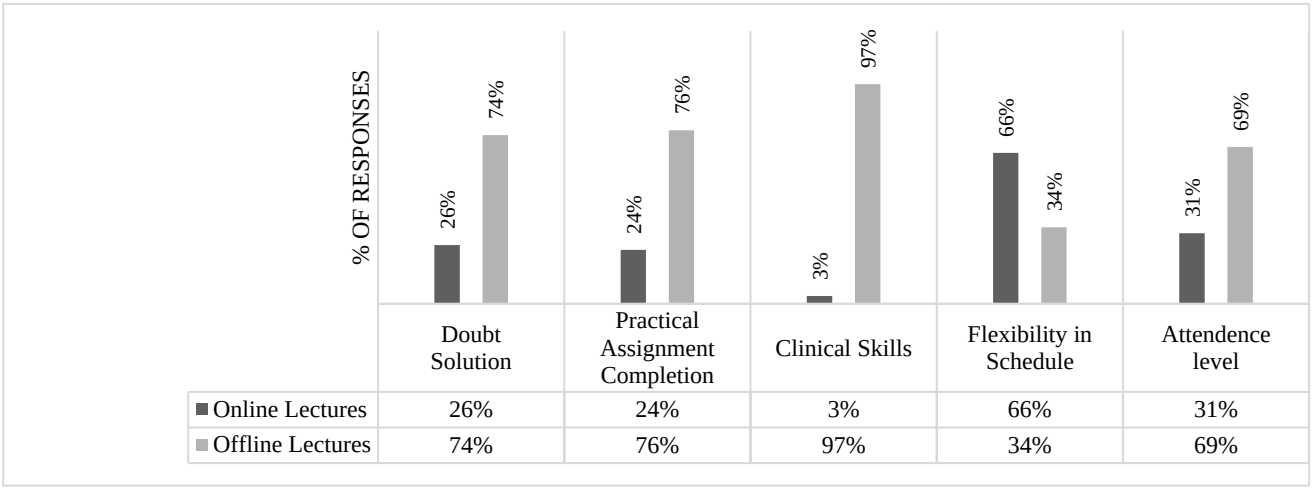

Figure 2: Skills and methodology related responses.

Table 3: Skills related questionnaire.

Section 3: Skills related questions	Online lectures (%)	Offline lectures (%)
In which method are you more comfortable at asking your doubts?	26	74
Which mode of lecture enabled you to do your practical assignment and project effectively afterwards?	24	76
Which method develops your practical/clinical skills more?	3	97

Table 4: Methodology related questionnaire.

Section 4: Methodology related questions	Online lectures (%)	Offline lectures (%)
Which method saves your time and works well with your schedule?	66	34
Which method makes you attend more classes?	31	69

Hybrid method of learning

Despite higher preference for offline mode of lectures over online lectures, 44% of participants were agreed to consider mixed method of learning using both traditional and online teaching to maximise the learning efficacy.

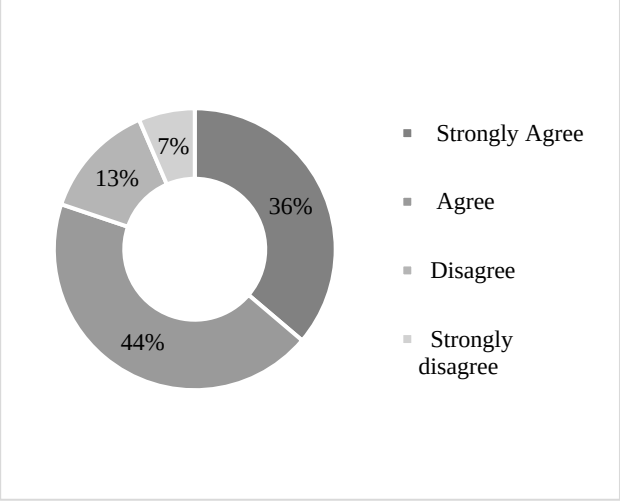

Figure 3: Responses for hybrid method of learning.

DISCUSSION

Knowledge

Due to COVID-19, it is common that majority of medical institutions have adapted the online mode of lecture delivery. However, it has not been used prior to this pandemic. In the study of "Eight principles of effective online teaching", certain principles are mentioned such as: encouraging contact between students and faculty, collaborative learning, quick feedback, active learning, task time-encouraging students to allocate more time for completing tasks, high-expectations-the teacher should communicate their expectations in order to encourage and motivate students, diversified learning, and technology application by Cheung et al.[11] In our study only 10% students believed that online mode of lectures are more interactive rest all 90% students favoured offline mode of lectures are more interactive and provide better knowledge. For maximizing learning efficacy of online lectures, we should follow the eight principles of effective online teaching given by Cheung et al.[11]

Understanding

In the study of students perceptions and satisfaction with a web-based human nutrition course, about 20% of students reported that they would understand the course materials better if the faculty was teaching in the traditional classroom in Rochester et al study.[7] The finding was also similar in our study as we have found that, students have perceived offline mode of teaching more effective as compared with online teaching, with an average of 21% scored for preference for online teaching, and 79% for offline teaching suggesting majority of students prefer face-to-face teaching.

Skills

Medical education has practical sessions in anatomy, physiology, and biochemistry laboratories along with clinical bedside training that requires physical contact with the faculty and peer. This has been documented as a determinant of attitudes towards e-learning.[8] The lack of these practical/clinical exposures in the existing e-learning platforms including those at Makerere University was highlighted as a major caveat to e-learning for medical education in Uganda in Frehywot et al study.[9] In our study, nearly 96% of the student participants also perceived that offline learning offers better interactions for development of clinical and practical skills.

Methodology

The key barriers to online teaching are distractions by ambience at home, lack of Internet connection, and the compatible devices. Moreover, switching between faculties for different topic, screen strain, technical issues during the lectures and pre-recorded lectures over live lectures are causing difficulties to concentrate and maintain consistent rhythm throughout the study sessions.

Above disadvantages of online learnings are countered by face-to-face learning because offline learning is effective to build connection and interaction between the faculties and students. Leveraging the advantages of both learning

methods, a blended approach of both learning methods can be developed. Utilizing the benefits of combined method, the learning eco system will be more effective to maximize learning efficacy. Moreover, the model of hybrid learning eco-system is also encouraged by nearly 44% of the participants.

Limitation

This study was limited to a single medical college of Surat.

CONCLUSION

Majority of students perceived that offline mode of lectures provide more information of subjects and better retention of knowledge. According to them offline mode of lectures is easy to understand and improved conceptual thinking. For development of clinical and practical skills offline mode of lectures is mandatory. But, majority of students perceived that online learning provide flexibility in participation of lectures and time saving method. Flexibility of class participation time, self-paced study, no travel cost, improve technical skills, development of self-discipline are advantages of online learning. Development of mutual understanding between teachers and students, face to face interaction, development of practical/clinical skills, better retention of knowledge are advantages of offline learning. Despite all these advantages, offline learning is still more active way of learning by means of knowledge, understanding, interpersonal skills development parameters. However, The COVID-19 pandemic has lasted more than the previous epidemics. As we did not have any previous experience of using online mode of education. In conclusion, the online learning is feasible and solution for continuing medical education in this pandemic.

ACKNOWLEDGEMENTS

Author would like to acknowledge the institutional ethics committee of SMIMER, Surat for approval of study. Appreciate guidance and support from respected faculty members of pharmacology department of SMIMER, Surat. Lastly, like to express my gratitude to second year medical students who participated in the survey.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Lu H, Stratton CW, Tang YW. Outbreak of pneumonia of unknown etiology in Wuhan, China: The mystery and the miracle. J Med Virol. 2020;92(4):401-2.
2. World Health Organization. WHO announces COVID-19 outbreak a pandemic. 2020. Available at: https://bit.ly/35KytdL. Accessed on 10 March 2020.
3. Giovannella C. Effect induced by the COVID-19 pandemic on students' perception about technologies and distance learning. Conference: SLERD 2020. Available at: https://bit.ly/3mzsEGN. Accessed on 10 March 2021.
4. Parker EB, Howland LC. Strategies to manage the time demands of online teaching. Nurse Educator. 2006;31:270.
5. Cook DA. Web-based learning: Pros, cons and controversies. Clin Med. 2007;7:37.
6. Eldeeb RA. Students' Perceptions to E-learning. J Res Method Education. 2014;4(3):33-6.
7. Rochester D, Pradel F. Students' Perceptions and Satisfaction with a Web-Based Human Nutrition Course. Am J Pharm Educ. 2008;72(4):91.
8. Frehywot S, Vovides Y, Talib Z. E-learning in medical education in resource constrained low- and middle-income countries. Hum Resour Health. 2013;11:4.
9. O'Doherty D, Dromey M, Lougheed J, Hannigan A, Last J, McGrath D. Barriers and solutions to online learning in medical education–an integrative review. BMC Med Educ. 2018;18(1):130.
10. Cook DA. Web-based learning: Pros, cons and controversies. Clin Med. 2007;7:37.
11. Cheung C, Cable J. Eight Principles of Effective Online Teaching: A Decade-Long Lessons Learned in Project Management Education. Proj Manag World J. 2017;6:1-16.

Cite this article as: Patel AM, Saxena K, Panwar AS. A perceptional analysis of online and offline mode of lectures in second year undergraduate medical students at SMIMER medical college, Surat. Int J Basic Clin Pharmacol 2021;10:1191-5.