e-ISSN: 0975-1556, p-ISSN:2820-2643

Available online on www.ijpcr.com

International Journal of Pharmaceutical and Clinical Research 2023; 15(11); 1437-1440

Original Research Article

Evaluation of Perspectives of Undergraduate Medical Students Regarding Online Education Amid COVID-19 Pandemic

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Received: 25-09-2023 / Revised: 23-10-2023 / Accepted: 18-11-2023

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Conflict of interest: Nil

Abstract:

Introduction: During the COVID-19 pandemic, educational institutions like schools and colleges, including medical colleges, closed their campuses for live classes. Students were sent home during the extended lockdown, causing a break in live theory classes and clinical postings in medical wards, resulting in the loss of essential learning opportunities. Institutes around the world have adopted the policy of online teaching for students. With this sudden shift, many institutions and teachers found themselves inadequate in dealing with the change. There were a number of factors that hampered the experience of both students and teachers. In the present study, we conducted a study on medical students in an Indian context.

Aim: The aim of the study was to study how students feel about online teaching through the pandemic and assess their self-reported views on how well-equipped they have educational systems to deal with this situation. The insights from this study were foremost helpful in identifying where online medical teaching has lacked (or surpassed) offline teaching and second, in identifying factors that can be corrected to improve the impact on student learning.

Objective of the Study: To determine students' views on the factors affecting the performance, knowledge, and attitude of medical students due to online classes during the COVID-19 pandemic. Given that the pandemic is still continuing, this assessment can help inform future institutional decisions to be made in other waves.

Material and Methods: An online survey was done using questionnaires at MGM Medical College Jamshedpur by using a questionnaire on Google Forms. Students from all semesters participated in this study.

Result: Only 18.3% of students preferred online classes 23.2% were satisfied with both modes of learning and 58.5% were not satisfied with online classes; they preferred offline classes.

Keywords: COVID-19, Online Class, Offline Class.

Introduction

The World Health Organisation (WHO) officially classified the new coronavirus, known as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), as a pandemic on March 11, 2020 [1]. In response, the Government of India implemented a nationwide lockdown on March 24, 2020. The transmission of COVID-19 is seeing a notable surge as a result of interpersonal interactions, while the implementation of physical separation measures plays a crucial role in mitigating its propagation. According to source [2], the closure of educational institutions, including medical colleges, was implemented.

The global landscape has undergone significant transformations within a short timeframe as a consequence of the profound impact caused by the SARS-CoV2 outbreak. Amidst the implementation of lockdown measures, students were compelled to vacate their individual college campuses, leading to the suspension of both theoretical instruction and clinical rotation placements. Consequently, students experienced a significant deprivation of crucial educational experiences [3]. Following this, a considerable number of students expressed notable levels of worry and tension due to the lack of clarity around their educational pursuits and the potential consequences of these alterations on their prospective professional trajectories.

Numerous nations worldwide have embraced the use of online instructional methods for pupils, spanning from elementary education to tertiary levels, including even medical colleges. In the context of India, educational institutions and educators were ill-equipped to handle such circumstances. The aforementioned endeavour had commenda-

ble qualities, although its progress was impeded by a multitude of obstacles [4, 5]. Following an extended hiatus from college, students returned to resume their academic pursuits with a combination of semi-offline and offline courses. The resumption of clinical postings marked the commencement of fully offline sessions. During this particular timeframe, the evaluation of pupils did not meet the expected standards. Following a period of alternating ward-based instruction and in-person teaching, colleges have once again suspended their operations. Thus far, there have been three instances of class suspensions during the preceding two-year period.

During this time of temporary cessation of in-person courses, several scholars have endeavoured to investigate the advantages and disadvantages associated with online instruction. Numerous obstacles impede the use of e-learning in medical education, including temporal limitations, deficient technological proficiency, insufficient infrastructure, and the dearth of institutional strategies and support [5-10]. The available international data indicates that medical students have a perception of having an ethical responsibility to engage in pandemic response efforts. Furthermore, they demonstrate a willingness to act in situations that resemble the ongoing COVID crisis, even when they acknowledge a significant personal risk of infection [10-12].

In present study we want to study students view about whether the online teaching is appropriate with the present infrastructure in MGM Medical College Jamshedpur compared to offline teaching and to determine the factors, which can be corrected to improve teaching and learning.

Material and Methods

Study population*:* Students of MGM Medical college Jamshedpur of all semesters

Study setting and place: online study was done by giving questionnaire to the participants willing to participate in the study on google form with google ID to prevent multiple entry.

Present study is passed through the Ethical committee of the institute

Before the study began, they were assured that their identity would not be disclosed to anyone and those who does not respond there will not be any harm to them according to Ethical rules, after filling the consent form online the questionnaire appeared on the screen.

The data collected included:

1. Age, sex and year of the study
2. Family income
3. Area of residence during pandemic
4. Internet connection
5. Devices available for online classes
6. Quality of learning in online versus off line learning on scale of 1-5
7. Factors related to teachers for online classes versus offline classes on scale of 1-5
8. Mental health and stress during pandemic
9. If choices given whether they would like to stay in the institution or would prefer going home if pandemic recurs in future

Results

Among the total population of 350 students, a sample size of 148 students (constituting 48% of the population) participated in the survey. It was found that a mere 18.3% of the participants expressed a preference for online courses. A total of 23.2% of participants expressed satisfaction with both forms of learning, while a majority of 58.5% indicated dissatisfaction with online courses and a preference for offline sessions. The student population consisted of individuals aged 19 to 28 years, with girls comprising 57.8% and men comprising 42.2% of the total. The range of average family income varied from less than one lakh INR to over 50 lakhs. The Indian Rupee (INR) was shown to have a correlation with the gadgets used for online learning and the sources of internet connectivity. The monthly expense allocated to internet charges online varies between INR 200 and INR 2000 per month.

The stability of the internet connection throughout the lecture session was observed to be consistent in just 37% of instances. A significant portion of the participants had issues related to frequent internet disconnections, while around 64.6% of them faced difficulties in returning to the class as a result of an unreliable internet connection. The predominant devices used by students for online courses were primarily mobile phones, accounting for 92.6% of the total, followed by tablets at 7.4%. Notably, no students reported utilising computers for their online learning activities. The primary variables contributing to the recurrent disconnection during online courses were the presence of internet instability and disruptions caused by frequent calls and alerts on mobile devices. A total of 47% of the student population exhibited a level of comfort in using online resources for the purpose of engaging in virtual classrooms. Table no. 1 illustrates the finding of the study.

Table 1: Findings of the study

Sr no.	Parameter	No. of students (%)	Remark
1	Preference for the modality		
	Online	18.3	Satisfied
	Offline	58.5	Satisfied
	Both	23.3	Satisfied
2	Stability of internet connection		
	Stable	37	Reliable
	Unstable	63	Unable to reconnect
3	Devices used		
	Tablet	92.6	Comfortable
	Phone	7.4	Comfortable
	Laptop	0	-
4	Convenience towards virtual tools		
	Not convenient	47	-
	Convenient	53	-

Discussion

According to the data, a mere 18.3% of students expressed a preference for online education. A total of 23.2% of respondents expressed satisfaction with both modes of learning, while 58.5% indicated dissatisfaction with online classes and expressed a preference for offline classes. A mere 9.8% of students felt comfort while engaging in discussions on uncertainties with their professors in an online learning environment. Conversely, 18.5% of students maintained a neutral stance on the matter, while a significant majority of 71.6% expressed discomfort in addressing doubts with their teachers.

The study revealed that a majority of students, namely 84%, said that they experience enhanced learning outcomes when the video mode is turned off during online sessions. Conversely, a smaller proportion of students, comprising 16%, expressed a preference for having the video mode on. The comparative analysis of teachers' efficacy in online and offline instructional settings and its impact on student satisfaction. The survey results indicate that 24.7% of students expressed a strong preference for the audio quality in online classrooms, while 40.7% remained indifferent, and 34.5% of students did not find the audio quality satisfactory. Several issues have been identified when comparing online courses to offline classes. These include a) Network connectivity challenges b) Reduced attention levels c) Frequent audio interruptions d) Subpar video and audio quality e) Limited opportunities for engagement f) Disturbances at home caused by interruptions from family members g) Timing conflicts with scheduled sessions.

In relation to the prospective implementation of online classes, it was found that a mere 23.8% of students expressed their agreement with this proposition. A total of 47.5% of respondents expressed a neutral stance, while 28.8% indicated their disagreement with online classes. According to the data, a significant majority of students, accounting for 80%, express a preference for the traditional offline method of learning. Conversely, a minority of students, constituting 20% of the total, indicate a preference for the online learning setup when presented with the option. The phenomenon of online logging is seen in 69.6% of students who participate in online classrooms due to concerns with attendance, while the remaining 30.4% engage in these programmes out of a genuine desire to learn. Additionally, it is noteworthy that 50% of students discontinue their participation in online classes after attendance is recorded in the online form.

During the era of the COVID-19 pandemic, a significant proportion of students, namely sixty-one per cent, experienced emotional stress. In the event of a future pandemic, a survey conducted among students revealed that 72.2% expressed a preference to remain on campus, while 27.7% indicated a desire to return home. According to the data, 71.8% of students expressed a willingness to engage in hospital ward duties, despite the potential danger of infection. Conversely, 28.2% of students indicated their reluctance to participate in ward lessons due to concerns over the possibility of contracting an infection.

Amidst the global COVID-19 epidemic, several medical colleges worldwide implemented the use of online programmes. A review of existing literature pertaining to online courses reveals that the majority of studies indicate improved outcomes in both online and hybrid instructional formats [10-12]. These positive results may be attributed to the availability of robust facilities, well-developed infrastructure, reliable internet connectivity, and the provision of essential tools such as computers and laptops to students. Furthermore, instructors are adequately educated to effectively provide online education. The students enrolled at MGM Medical College Jamshedpur express

dissatisfaction with the online teaching method due to many reasons that contribute to suboptimal learning outcomes when compared to the traditional offline form of classroom education.

Several factors have been highlighted as potential contributors to the challenges faced by students during online classes. These factors include an unreliable internet connection, the quality and functionality of the equipment being used, and the prevalence of disturbances experienced by students who primarily rely on their phones for online learning [5].

Teachers may lack expertise in online teaching compared to traditional offline teaching, which may result in students experiencing subpar learning outcomes. The acquisition of appropriate training is crucial for educators to effectively instruct in an online learning environment [12]. Distant learning necessitates the availability of technical and infrastructural resources [7]. A significant proportion of students exhibit a preference for remaining on campus and engaging in ward duty during potential future pandemics, despite the inherent risk of contracting the infection.

Conclusion

Present study is in contrast to many international and national study regarding online versus offline classes in medical college. Before starting further online class in their medical college needs technical and infrastructural resources, training of students and teachers as well. Students' choice must be sought before sending them home if pandemic occurs in future.

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