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Drawbacks of remote teaching and learning assessment of medical and health science students during the COVID-19 pandemic: Future perspectives and recommendations

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ABSTRACT

Almost all universities or colleges have diverted to online learning and teaching modalities due to COVID-19 pandemic. Adaptation of remote learning might not be equally beneficial for all students. We have provided an opinion about how remote learning might become an opportunity for dishonest students and future perspectives for such students. Medical students, who do not take their studies seriously might take this remote learning as an opportunity and use the short cuts to pass their exams because they can easily cheat online in the assignments and exams. Therefore, teaching institutions should develop some strategies to equally assess medical and health sciences students to ensure transparency, justice, and credibility. Conducting oral exams along with the written exams, encouraging students to participate online, asking students to turn on their videos if feasible, and developing a mechanism where these students can explain their work to the teacher can help to overcome challenges.

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INTRODUCTION

There has been a sudden transition throughout the world as a result of the COVID-19 pandemic, which was caused by a novel virus (Lai *et al.*, 2020). With a high phylogenetic resemblance, the novel viral organism was termed Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) by the International Committee on Taxonomy of Viruses and the ensuing pathology was named Coronavirus Disease 2019 (COVID-19) (Lai *et al.*, 2020). This virus originated in one of the provinces of China and spread to other parts of the world rapidly. By March 2020,

a plethora of confirmed cases and fatalities were reported to the World Health Organization(WHO) from all over the world (Rothan and Byrareddy, 2020). The tally started mounting at an exponential rate and hence the world had been imposing preventive and control measures to contain the spread of SARS-CoV-2 (Rothan and Byrareddy, 2020). Moreover, WHO declared this as a pandemic and advised countries to take necessary preventive and curative measures to curb the spread of the disease from one human being to the other (Rothan and Byrareddy, 2020).

The COVID-19 global health pandemic has impaired the health status as well as the quality of life of many individuals across the world (Zhang and Ma, 2020). The highly contagious nature of the virus and its tendency to spread from person to person via aerosol droplets meant that the only way to curb its swift spread was to impose containment measures by enforcing nationwide lockdowns and travel restrictions and by encouraging social distancing. These measures and the ways in which they were implemented by different governments have affected the global economy and health system to a great extent (Anderson et al., 2020).

A number of countries across the globe have implemented control measures such as lock downs, curfews, and social distancing (Zhang and Ma, 2020). In addition to this, travel restrictions were also placed on the majority of countries around the world, negatively affecting different sectors, including health, finance, transportation, and education (Mckibbin et al., 2020). Unprecedented circumstances like the recent COVID-19 epidemic put immense pressure on educational systems to reshape their plans and policies in order to deter the spread of deadly infections and ensure the smooth functioning of the teaching and learning (Bao, 2020). For example, all teaching institutions were shut down for some time and faculty in academic institutions were asked to develop contingency plans for their online classes (Viner et al., 2020). As a result, there was a sudden transition from class room teaching to online teaching (Hodges et al., 2020). This shift encouraged faculty and teaching staff to also make remote assessments for the students (Zayapragassarazan, 2020). Within the quality assurance, universities and academic institutions have seen the importance of developing proper and well written contingency plans, in addition to properly calculating and introducing risk stratification assessment in their projected strategy planning. Living in a world with expected financial economic crises, biological threats of new virus epidemics, and abrupt dynamic changes of the educational market of classi-

cally taught disciplines are all examples of imminent threats, educational academic facilities might regret not forecasting these possibilities and urgently planning ahead.

Although these restrictions have helped countries reduce the spread of virus, It is unclear what effects and future consequences these changes may have in the long run. This changing paradigm for remote assessment has also reformed the structure for evaluating students, making it challenging to evaluate academic misconduct and dishonesty among students (Longhurst et al., 2020). This is important because those students who commit academic dishonesty may become involved in unethical practices in their future workplace (Nonis and Swift, 2001). Despite the uncertainties in the behaviour of some students, no one has thought about how this remote assessment and evaluation can be challenging for universities and colleges across the globe. This article provides one opinion on how remote learning and assessment could possibly result in more academic dishonesty and what the future perspectives for students who commit such acts may be. This will help universities and institutions to reflect on devising their new plans of teaching and evaluation while assessing the students remotely.

MATERIALS AND METHODS

Articles were extracted from databases such as Google Scholar and PubMed. For this narrative review, the authors undertook controlled vocabulary and text-word searches in these two databases. All articles published on the topic of remote learning and COVID-19 were included in the review. All articles were searched for by using search terms such as 'remote learning ', 'remote learning and COVID-19', 'remote assessment and COVID-19' and 'remote teaching and COVID-19'. All the selected studies were limited to human studies reported in the English language, but studies conducted both in developing and developed countries were included. All primary and original articles pertinent to the study's objective were examined while conducting this review. Given the timing of the COVID-19 pandemic, the search was limited to the duration between 2019 and 2020 by applying a search filter on the time period while searching the articles in the databases. A search of electronic databases was undertaken using a snowball sampling technique consisting of backward and forward reference searches to identify eligible articles. Additionally, all the references of the eligible articles were reviewed to avoid missing any articles germane to the topic of interest. After searching for different databases and

following the above criteria, the full texts of articles of the studies that highlighted remote learning during the COVID-19 pandemic were reviewed.

Findings

Remote monitoring and assessment of students during COVID-19 pandemic

The COVID-19 outbreak has entailed remote teaching and learning approaches across developing and developed countries (Daniel, 2020). Many colleges and universities have stopped in-person teaching and learning strategies, and have moved to online teaching as well as remote assessment and evaluation methods (Zayapragassarazan, 2020). This might not be new for developed countries as most of their universities use blended learning and teaching modalities, including both classroom and online learning methods (Jung and Suzuki, 2006). However, this change might be new for developing countries, where students are taught mostly in classrooms in a more traditional way (Alsaaty *et al.*, 2016). Although this new change might be a challenge for universities and colleges in developing countries, it could also bring some opportunities. For example, universities in these low and middle-income countries (LMICs) could learn new technological methods and online tools and start making contingency plans for the future (Hopman *et al.*, 2020). This will, in turn, prepare faculty and administration for future epidemics more effectively, and allow them to efficiently face similar challenges if any arise (Kapata *et al.*, 2020). Similarly, due to social distancing and lockdowns, students in developed countries are also not able to attend university and college. This might not be completely new for developed countries, but it can also pose some challenges in assessing the students—mainly for those who do not take education seriously in class (Arnove, 2020). Thus, this way of remote assessment might become difficult for the faculty in assessing medical and health sciences students and their counterparts on a similar scale.

Future perspectives of remote learning and assessment of dishonest students during COVID-19 pandemic

Students in any medical university or college are not similar in many aspects. For example, some of the students might be more sincere towards their studies and they may not take them seriously. On the other hand, some medical students might not be serious about their careers and need continuous monitoring and supervision by their teachers and faculty members in the classroom settings (Chizhik *et al.*, 2017). Since COVID-19 has resulted in many restrictions, it might be difficult to monitor these dishonest students vigilantly. As a result, there is a possibility that some of the medical and health science students might become less responsible for their studies. For example, teachers and faculty members have become more flexible with the evaluation and assessment of the students in multiple ways due to the COVID-19 pandemic. This is because teachers and college or university staff do not want to put these students at a higher risk of anxiety or give them unnecessary stress during COVID-19 (Tanveer *et al.*, 2020). Furthermore, unlike in classroom settings, teachers and professors also are not able to monitor the attendance of students Pragholapati and EdArXiv Preprints (2020). This is because every student now relies on their own will to attend the class, especially since they now have the facility of recording the video of the lecture, which can be watched later at the student's convenience (Dutton and Mohapatra, 2020). Moreover, the final exams and other ongoing assessment methods are also remote or sometimes cancelled. Therefore, it is extremely difficult to assess the students' progress using more conventional means (Blau and Eshet-Alkalai, 2017). The most serious and dedicated students could consider these online learning and teaching methods and assessments as an opportunity to make the most of this challenging time. In contrast, dishonest medical and health sciences students may choose to take shortcuts in order to pass particular exams, specifically leading to academic dishonesty (Zhang and Ma, 2020).

Medical and health sciences students who are not concerned about their studies and who do not value academic integrity can find ways to cheat; therefore, it is important to think about the future perspectives of such students (Fawns *et al.*, 2020). First, these students might receive help from their friends or colleagues in completing the assignments, which might make it difficult for a teacher or faculty member to evaluate them in an online class of more than 20 or 25 students (Drane *et al.*, 2020). Second, these students might submit their work after given deadlines and make excuses by claiming that someone is suffering from COVID-19 in their family. This would result in their instructor being more lenient because, ethically, a teacher or a professor cannot fact-check this due to the COVID-19 crisis but instead must rely on the information provided by the student (Müller *et al.*, 2020). Third, these students might also seek help from professionals in writing their assignments and even get the appropriate guidance before exams. For such students, a teacher might encourage them to discuss the assignments in a group, but they would never allow the

student to submit work written by someone else. This will not only hinder the learning of the student but will also be considered a violation of the ethical honour code of any college or university. Fourth, before COVID-19, all students were required to take their exams in classroom settings in the presence of a teacher or a teaching assistant (Daniel, 2020). However, during the times of online learning and teaching, instructors have started administering exams remotely, with some of the exams being open book or take-home (Reich *et al.*, 2020). These changes might make it easier for dishonest students to receive help from their colleagues or professionals in order to pass exams when they would otherwise receive lower grades. This introduces an element of unfairness to the education system, in which both extraordinary and dishonest students are rewarded similarly. Considering these challenges, the universities and college lecturers or teaching teams must refine any existing contingency plans before developing any new ones during this time of crisis. Due to the emergency situation, some people may believe that online or remote assessment can sufficiently substitute the classroom setting for a short time, but in fact, this new system might bring more challenges in the long run.

Recommendations for the future

Given this abrupt transition due to the pandemic and in anticipation of any future outbreaks, educators must think of more effective strategies for evaluating dishonest students in order to avoid injustice in the overall education system. Some innovative changes must be brought into the system to aid in making transparent evaluations for all types of students. It might be a source of pride for a university when it offers degrees to a large number of students in a given year, but it is equally important to produce a well-educated and qualified cohort that can be productive in their society in the future. First of all, faculty members might need to introduce some random surprise assessments during online classes. For example, there is the option to put students in breakout rooms on Zoom and Moodle technology, which can be used by instructors to generate an environment where all students can participate. These breakout sessions or generally larger online class sessions can be used successfully to monitor the progress of both honest and dishonest students. For instance, teachers or lecturers can create a mechanism in which in-class assessments are formally graded, which will encourage all students to participate on an equal basis. This will also allow teachers to carefully observe highly suspicious or dishonest students.

It has been found that usually, in medical universities it is the students' choice whether they have their cameras or mics on during their online classes. This could allow some students to skip classes because the teachers cannot make any definite conclusions about the presence or absence of the student in the class. Therefore, it might become important for teachers to make it mandatory for all students to turn on their video, even in larger classes, to ensure that all students participate in class. In addition to this, universities or teaching teams may need to fund ways whereby all students, including ones who are highly suspected of being dishonest, can present their work or assignments online in a classroom setting. This will provide an opportunity for the teaching team to assess such suspected students transparently. This will also be beneficial for the future of that particular student as these mechanisms will motivate them to learn and work harder to earn high grades. This, in turn, will guarantee that there is justice for all students, for guardians who pay large amounts of money to educate their children and also for the societies to which these students will contribute.

Moreover, it is important to consider adjusting strategies for conducting exams. While it may still be necessary to have the exams betake-home or administered online, oral exams could be conducted simultaneously with these written tests. This will help the teaching team evaluate highly suspected students by having what is written on the exam sheet be supported by the students' performance in the oral portion of the assessment. Introducing these strategies might be challenging for the universities and colleges in the short term, but they would ensure justice and transparency in remote assessment and evaluation. Additionally, some programs can easily detect cheating or dishonesty on the student's part. Therefore, faculty may need to ensure the active participation of these students during the class. In the case of online assignments, a time limit should be set by the teachers to finish the exam or assignment to prevent cheating or unethical practices.

Furthermore, assessments should not rely completely on summative methods; rather formative assessment methods should be introduced in order to give a more objective evaluation of students' learning. Online assignments, presentations, projects, and portfolios are examples of formative assessments when evaluated and examined properly (by developing proper rubrics for evaluation). In online assessments there may be some security breach concerns, so a careful plan to decrease the chances of breaching the system is highly needed. Although the classical theoretical teaching sessions

can be easily adapted to online teaching, one of the main challenges is how to proceed with practical lessons and computer or basic science lab sessions that need the physical presence of the students. Thus, more innovative methods of teaching are highly needed to overcome this challenge. One possible solution may be adopting simulated teaching, which has educational searches and evidence. If delivered properly, it can allow for high-quality teaching that is comparable to the classical practical teaching sessions. In addition, using simulated online infographics, teaching models and online computer programs could be some teaching alternatives for these kinds of activities. Even now, universities have started practicing social distancing guidelines; therefore, students can physically attend labs and exams, which is much more effective than online or virtual solutions. However, this would only be possible if students practiced social distancing and followed the guidelines seriously.

CONCLUSION

COVID-19 has been extremely challenging for the entire world and it is inevitable that has also affected teaching and learning systems. It has presented the need for online learning and teaching systems, which might be a viable short-term solution, but it is also important to consider the long-term effects of such methods. Students who are not serious about their studies might think to adopt shortcuts and commit academic dishonesty in order to receive their degrees. These students might become even less serious due to the shortcomings of online and remote assessment and might resort to cheating. Considering this, universities and colleges need to think about revising their existing methods of remote assessment and develop some more innovative strategies, which could more fairly assess highly suspected individuals. This will not only help universities and teaching teams adapt during this COVID-19 pandemic, but these experiences will also help them bring about new and transparent changes in the system. These changes will not only enhance the credibility of any teaching system at a medical college or university but will also help such students to become more serious towards their studies to contribute to their societies positively and productively.

Conflict of Interest

The authors declare that they have no conflict of interest for this study.

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