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Pros and cons of online course from medical student's standpoint.

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ABSTRACT… Objective: To evaluate the pros and cons of an online course from medical students' standpoint. **Study Design:** Cross Sectional study. **Setting:** At Al-Tibri Medical College and Hospital. **Period:** January 2020 to May 2020. **Material & Methods:** After taking ethical approval, 200 students were equally divided into basic medical sciences and clinical sciences based on convenient sampling. The participants, after taken verbal consent, filled a self-designed questionnaire. The data were analyzed through SPSS version 21.0 and presented in the form of frequency and percentage. The Chi-square test was applied, and the level of significance was taken P=<0.05. **Results:** Both medical and clinical medical science students were well-motivated in learning online through online courses. However, the lack of internet facility, poor IT skills, and improper facilitation by the faculty hindered their progress towards achieving good online education. **Conclusion:** Improvement in the way online courses are delivered and taught by the faculty is crucial in increasing student motivation towards online learning, but issues such as poor IT skills and lack of internet facility must be addressed to provide an equal form of e-learning for students.

Key words: Pros and Cons, Medical Sciences, Online Teaching.

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INTRODUCTION

The internet has become a vast medium for delivering information on all subjects. Therefore, it has now also been utilized for delivering coherent online education to students studying in schools, colleges, and universities. It offers new and exciting possibilities for providing education and improving the competitive landscape.[1] Electronic or online learning can be defined as "the use of electronic technology and media to deliver, support, and enhance both learning and teaching and involves communication between the learners and teachers utilizing online content".[2] Initially, medical education and teaching used to be conducted face-to-face inside a classroom through a teacher-centered model. However, there has now been a shift in how medical knowledge is being taught, with many institutions not just carrying out the traditional practices but also employing online courses and distance learning for their students.[3] Medical students currently studying continuously need to keep themselves up to date with the latest technology and use that technology to their benefits to be prepared to provide the best health care possible to their patients.[4] Although online courses being taught to students seem very fruitful, it does have its issues. The success in delivering the best possible online education depends on students and the faculty.[5] The faculty particularly needs to adapt to a new technology that the world is using to deliver online education, whereas some might outright reject it due to lack of proper knowledge on how to use it or it is already overburdened due to their position. The future of online education and how vastly the field of medicine will adopt it remains uncertain.[6] That being said, we have decided to assess the pros and cons of an online course from a medical student's standpoint.

MATERIAL & METHODS

After the concerned ethical committee's approval

(IERC/ATMC/0024), a cross-sectional study was conducted at Al-Tibri Medical College and Hospital, Isra University Karachi Campus from January 2020 to May 2020. A total of 100 students from basic medical sciences and 100 students of the college's clinical medical sciences were selected for the study based on a convenient sampling technique, and data was collected through an online process. The students of Allied medical sciences were not taken in this study. The students were then asked to fill the questionnaire after taking their consent in which they had to answer questions by either selecting, agreed, neutral, and disagreed for each item. The questionnaire was then collected, and the data were analyzed using SPSS version 21.0. The chi-square test was applied, and the level of p significance was kept at < 0.05. The data, once analyzed using SPSS, was then tabulated and presented in frequency and percentage form.

RESULTS

Table-I Shows frequency and percentage of gender based distribution of participants among basic medical sciences and students of clinical medical sciences

Table-II Shows the Frequency and percentage of response by the participants and level of significance after application of Chi-square test.

Gender	Basic Medical Sciences	Clinical Sciences
Male	62(62%)	52(52%)
Female	38(38%)	48(48%)
Total	100	100

Table-I. Shows Frequency and percentage of gender based distribution.

	Basic Medical Sciences			Clinical Sciences			P-Value
	Agree	Neutral	Disagree	Agree	Neutral	Disagree	
Low internet/Wi-Fi coverage source	48(48%)	24(24%)	28(28%)	52(52%)	27(27%)	21(21%)	0.513
Lack of understanding in using online course	24(24%)	16(16%)	61(61%)	41(41%)	61(61%)	43(43%)	0.020
There is no proper guidelines and practice session	10(10%)	5(5%)	85(85%)	12(12%)	15(15%)	73(73%)	0.048
Incomplete equipment in using online learning management system	21(21%)	10(10%)	69(69%)	20(20%)	24(24%)	56(56%)	0.028
Unable to fully commit online	42(42%)	18(18%)	40(40%)	39(39%)	23(23%)	38(38%)	0.680
There is no motivation for joining the online course	23(23%)	17(17%)	60(60%)	28(28%)	19(19%)	53(53%)	0.596
The material in the online course is not interesting/boring	38(38%)	22(22%)	40(40%)	42(42%)	17(17%)	41(41%)	0.653
Not all courses are offered in online learning system	63(63%)	21(21%)	16(16%)	59(59%)	26(26%)	15(15%)	0.706
Insufficient IT skills	59(59%)	15(15%)	28(28%)	48(48%)	21(21%)	31(31%)	0.277
Lack of communication between facilitator and students	58(58%)	15(15%)	27(27%)	66(66%)	18(18%)	16(16%)	0.165
There is no motivational teaching style	68(68%)	14(14%)	18(18%)	63(63%)	22(22%)	15(15%)	0.326
Lacking of collaboration among the students	73(73%)	22(22%)	5(5%)	60(60%)	23(23%)	17(17%)	0.020
Unable to build different skills	65(65%)	24(24%)	11(11%)	48(48%)	27(27%)	25(25%)	0.017
Lack of feedback	56(56%)	23(23%)	21(21%)	76(76%)	12(12%)	12(12%)	0.011
Difficulties in online assessment	31(31%)	15(15%)	54(54%)	34(34%)	16(16%)	50(50%)	0.850
Online assessment can affect the students' performance	37(37%)	27(27%)	36(36%)	51(51%)	24(24%)	25(25%)	0.112

Table-II. Shows the Frequency and Percentage of student's response with level of significance. Chi-square test applied Level of significance P=<0.05

DISCUSSION

Both students of basic medical sciences and clinical sciences mostly agreed that there is a lack of proper internet/ Wi-Fi coverage that hindered their online education. However, many students from both fields also disagreed with this, indicating that not all students have the same type of internet coverage and that it depends upon the kind of internet or Wi-Fi connection they have to access. Another study conducted among first-year medical students' showed a variation in the quality of internet connection, which can be seen in our study.[7]

There was a clear difference between the primary medical sciences student and clinical sciences students when it came to the lack of understanding during an online course. Since clinical science students require more clinical and bedside teaching to better outline how to examine, diagnose conditions, and treat them. In contrast, the basic medical sciences are currently studying theoretical aspects of medicine and don't require hands-on patient dealing with learning the subject during the current time. Therefore they disagreed with the online courses didn't provide them with proper understanding. That can be seen in a student conducted on Denmark's first-year medical students, which were in favor of replacing traditional lectures with e-learning.[8]

Both groups of students could not fully commit to online learning and found that online learning was not exciting or boring. That made it difficult for students to learn the required subjects properly. However, students' motivation is part of online learning even though the online courses are not up to the mark or even if they had poor internet access. A study conducted on both British university and Helwan University students in Egypt showed student motivation and engagement in online e-learning, similar to what our research has shown.[9] If proper materials and if the course is designed in such a manner that it facilitates learning in a much easier way and is attractive to students of both primary and clinical sciences, they will be able to commit to online courses much more readily as we can see through our data that there is no lack of motivation among them to learn online.

Students from both groups also highlighted no motivation in teaching, and neither is there proper and coherent communication between the facilitator and the students. That is also the reason why students have not been able to commit to online courses fully. If this communication gap exists among the students, and there is no improvement in teaching online, the students will suffer significantly, impacting their examinations and their future as a clinical practitioner. A study conducted on 214 undergraduate and graduate students showed that teacher verbal immediacy is a significant predictor of online discussion frequency and highlighted that teachers must develop a communication behavior that reduces the social and psychological distance in a learning environment online.[10] Therefore, the faculty must develop a way to provide online education in the best way possible to their students and create a motivational style of teaching to be motivated to take part in online courses.

There is also a significant lack of IT skills among basic and clinical medical sciences students. Another similar study showed the same results when conducted among 171 first-year medical students at the University of Jordan, indicating that most students had an average or somewhat advanced knowledge of using the computer and internet.[11] Furthermore, the same study found that lack of time, connectivity issues, and resources are still a constraint. Another study was done at the University of Edinburgh, in which 144 3rd year students were assessed for the levels of computing skills and confidence for carrying out tasks. That study also supported the fact that students did not have the confidence to carry out simple tasks.[12] That is similar to what our research has shown that students lack the necessary IT skills. Therefore, a specific curriculum must be incorporated during medical education to acquire the required IT skills.

CONCLUSION

Students are well motivated to take online sources for learning medical education. There are, however, many hindrances' when it comes to

delivering efficient online learning to the students of medical sciences. These may include lack of Wi-Fi/ internet access, lack of communication between the facilitator and students, improper guidelines and practice sessions, and difficulty in understanding online courses. This is probably the reason why students have found it difficult to commit to online courses, even though they are well motivated to do so. Therefore, a well-established online course must be developed by the faculty that makes learning easier for the students. A teaching style must be adopted by the teachers that motivate the students to pursue online courses so that students can be more collaborative towards it. Non-uniform access to internet facilities must also be addressed as this may cause issues to students even if the online courses are being delivered up to the mark. If these issues are addressed, students' may benefit from online classes when it comes to learning theoretical subjects and may even consider it over traditional hands-on learning.

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AUTHORSHIP AND CONTRIBUTION DECLARATION

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5	Khalique-ur-Rehman	Manuscript writing.	
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