Assessment of On-Line Education in the Era of COVID-19: A Survey of Students in the Faculty of Dental of Casablanca

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Abstract: Human history is littered with epidemics. If these have devastated entire societies throughout the ages, and have left indelible scars in history, literature, the arts, and even in the human genome, they have nevertheless enabled him to adapt to circumstances and to create a kind of symbiosis with nature. The plague, the Spanish flu, cholera, Ebola or recently COVID-19, the return of an epidemic, even a pandemic, seems inevitable, but not ineluctable. Coronavirus disease (COVID-19) is a respiratory infectious disease caused by the SARS-COV-2 virus. This virus is not only spread by direct contact, but also by airborne droplets. This has led to an embarrassing situation for the government, which has to adopt a policy of last resort in terms of containment or isolation to limit the infection. The study is carried out in order to evaluate the online learning during the pandemic of COVID-19 among the students of the Faculty of Dentistry of Casablanca.

Keywords: Education, Dentistry, On-Line, COVID

1. Introduction

Human history is littered with epidemics. If these have devastated entire societies throughout the ages, and have left indelible scars in history, literature, the arts, and even in the human genome, they have nevertheless enabled him to adapt to circumstances and to create a kind of symbiosis with nature. The plague, the Spanish flu, cholera, Ebola or recently COVID-19, the return of an epidemic, even a pandemic, seems inevitable, but not ineluctable.

It is in this sense that education must be rethought and teaching must be redesigned, so as to ensure their immutability in the most inextricable times. [1]

Coronavirus disease (COVID-19) is a respiratory infectious disease caused by the SARS-COV-2 virus.

This virus is not only spread by direct contact, but also by airborne droplets. This has led to an embarrassing situation for the government, which has to adopt a policy of last resort in terms of containment or isolation to limit the infection.

But this strategy also has repercussions on all sectors: trade, transport, tourism etc. The education sector has not been spared and has seen a suspension of face-to-face classes. [2]

The implementation of a distance learning system is therefore of particular interest in this period of pandemic. [3]

In the same sense, the Faculty of Dentistry of Casablanca has set up an online teaching system through the Hassan II University teaching platform to ensure the continuity of teaching during this global health crisis.

It is in this perspective that our study is carried out in order to evaluate the online learning during the pandemic of COVID-19 among the students of the Faculty of Dentistry of Casablanca.

2. Materials and Methods

The study is a descriptive cross-sectional epidemiological conducted at the Faculty of Dentistry of Casablanca, between March and April 2021.

The number of respondents was 541 students out of 600 targeted in the Faculty of Dentistry of Casablanca.

We randomly selected 100 students per class from 1st to 6th

year.

To collect the data necessary for our study, we developed a questionnaire that was distributed to the students at the beginning of clinical shifts, during practical work and during lectures.

This questionnaire includes 4 main parts:

1) First part: was reserved for the interrogation of the student in order to collect sociodemographic information, namely his or her gender and level of study.
2) Second part: focused on the computer equipment used.
3) Third part: focused on the advantages and disadvantages of ADE during the health crisis.
4) Fourth part: was devoted to the opinions and expectations of students in relation to distance learning.

We used SPSS to study statistical methods and trace the correlation between the different answers proposed.

3. Results

The total number of questionnaires distributed was 600 with 541 completed questionnaires returned.

Our sample was composed of 226 students or 41.8% of the male sex, against 315 or 58.2% of the female sex.

The number of respondents from first year students was 13.1%, second year 18.5%, 3rd year 17.4%, 4th year 18.7%, 5th year 15.7%, and 6th year: 16.6%.

According to the data of our study, 91.7% of the students confirmed that they had access to the Internet and 93.3% stated that they had a computer.

Concerning the training platforms used by the students, it was found that 92.1% used the university platform, 33.3% used the ZOOM application and 9.0% opted for other software.

As for the degree of difficulty encountered when using the platform, it appears that 39.6% of the students think that access is easy, 50.3% find it quite difficult and 10.2% find it difficult.

78.2% of these students say that the courses are made available to them on the e-learning platform.

When asked about the benefits of online education:

1) 41.5% of students chose the answer "Saves time;
2) 30.5% chose "Saves money;
3) 16.5% chose "Teacher/student interaction;
4) 14% chose "Improved computer skills.

As a partial counterpart, 64% chose the response "difficulties with internet connection" for the question of limitations,

1) 41.6% chose "work overload;
2) 32.5% chose "difficulties with contact with teachers;
3) 29.8% chose "length of classes";
4) 27% chose "technical difficulties in accessing the platform;
5) 22.8% chose "teaching method;
6) and 16.5% chose "understanding of how the platform works".

Regarding the perception of students on the quality of the onligne learning system available to them, 60% considered it

average and 40% considered it good.

Concerning the format of the lectures, 33.6% of the students prefer the face-to-face system, 37.3% opt for the hybrid system and 29% prefer the distance learning system.

In addition, 70.6% of students believe that the classroom is the most suitable for tutorials, against 15.7% opting for the hybrid system.

The survey also shows the clear predominance of face-to-face teaching for practical work.

Regarding the possibility of replacing classroom teaching by EAD,

18.9% of the students think that face-to-face teaching can certainly be replaced by EAD;

47.1% of students think that it can probably be replaced;

While 34% of students think that ADE can never replace face-to-face teaching.

Finally, the results of our student survey show that 32.2% of the students seem to be satisfied with the training on the platform.

And that nearly 7.4% are very satisfied, 26.8% are quite satisfied while 33.4% are not very satisfied to dissatisfied.

4. Discussion

We will give an overview of the decisions made and activities carried out by the administrative staff and the pedagogical team of the faculty to ensure the pedagogical continuity of teaching during this global health crisis.

By consulting the digital platform of the faculty, we could notice that the faculty, as well as the technical and administrative staff, proceeded to the new mode of teaching and to the setting on line of the courses on the platform reserved for this subject. They have met the requirements of the current situation to face the challenges and issues that the COVID-19 pandemic has imposed on us. The courses have also been delivered via virtual classes and social networks. [1-2]

Regarding the modalities of evaluation of students, teachers have used both distance and face-to-face evaluation. [3-4]

1) According to the note sent by the Ministry of Higher Education and Scientific Research, our faculty has organized the resumption of activities, including face-to-face assessments while respecting the health protocol imposed by the supervisory authority and the scientific committee of the Ministry of Health. This evaluation concerns the major, complementary, tools and opening modules.
2) The faculty has also been called upon to create new forms of distance evaluation for both tutorials and clinical staffs. It should be noted that the teachers put clinical cases online, then the students were asked to establish a diagnosis, list the objectives and therapeutic possibilities and then detail in chronological order the therapeutic solution chosen.

The health crisis continues and we do not know when normalcy will return. Therefore, it seems essential to adapt and continue our faculty teaching. Minimum technical

requirements, such as: internet connectivity, connection devices, and an adapted platform must be met for an optimal learning experience.

According to our study data, the vast majority of students representing 91% of users confirmed having access to the Internet and 93% reported owning a computer, which seems to reflect the reality that "Millennials" are very attached to these advanced exchange technologies.

During this epidemic, students were required to use various digital applications to stay in touch with their teachers. It turned out that 92% used the university's platform, 33% used the ZOOM application, and 9% opted for other software. This epidemic was an opportunity for these students to discover a significant number of digital software and applications.

The majority of participants found access and use of the platform quite difficult and difficult, respectively 50% and 10%. [5-6]

Almost similar results were observed at Mohammed V University in Rabat showing that 43% of students found the Moodle platform difficult to use. [7-8]

Finally, 78% of the students surveyed during our study stated that the majority of courses were available on the educational platform. This is due to the efforts made by the different actors in education to overcome the COVID-19 health crisis. [9]

Our study highlighted the main perceived benefits of online education. The proposition most chosen by students was "saving time," followed by "saving money," which seems obvious, since they did not have to go to the faculty during the lockdown period. Online education offers students the opportunity to study at their own pace and at their own convenience. [11] Therefore, flexibility and convenience are the main drivers of demand for online education.

The teacher, during the closed period, might also have enough time at home to communicate with students that would not have been the case otherwise. Nevertheless, this experience should shed light on the importance of effective communication and its positive effect on promoting deeper learning.

"Teacher-student interaction" was the third most selected proposal, followed by "improving computer skills." Indeed, the principle of EAD is to have independent virtual learning, while being accompanied by a pedagogical team that always listens.

In addition to the benefits, participants also mentioned several factors that made their online learning unpleasant and difficult.

"Poor internet connectivity" was ranked as the main barrier to online learning. This gives us an idea that if a country wants to move towards online education, it must first focus on its internet facilities.

"Work overload was the second most selected proposal followed by "difficulties related to contact with teachers" and << difficulties accessing the platform >>.

Participants felt that the interaction with teachers during online instruction was not the same as face-to-face instruction. Although advances in technology allow for video features that mimic face-to-face interactions, they can never replace physical face-to-face interactions.

In addition, dental students are not computer literate, which may explain the difficulty in accessing and manipulating the various platforms.

Another critical aspect to be mentioned is the "suspension of internships". Unfortunately, direct clinical experience and learning cannot be replaced by distance learning. [12]

Students were asked to express their perceptions on the quality of the distance learning facilities available to them in the era of the global health crisis, 40% rated it as good while 60% rated it as average.

These results are not in line with studies conducted with students at Hassan II University in Casablanca and public post-secondary institutions in Canada which showed a positive attitude towards online learning provided.

We asked students to choose the most interesting and effective pedagogical model for lectures, TD, TP.

The results of our survey showed that 37% of the students say that the hybrid pedagogical model is the most suitable for lectures, because of the student's flexibility in terms of studies.

29% opt for distance learning courses.

This correlates with a national study of students in universities and management training institutions in Morocco, where 75% of students stated that distance learning is more suitable for theoretical courses.

In addition, our study shows that 33% of students prefer face-to-face learning. This preference can be explained mainly by the technical problems found during lecture broadcasts, the lack of interaction with the professor, and the quality of sound which is mentioned by several students.

Although it seems possible to replace traditional lectures with online courses, it is argued that face-to-face contact and interaction with classmates and teachers is preferable for tutorials and assignments.

According to the results of our study, the majority of students share this opinion and affirm that the face-to-face pedagogical model is the most suitable for tutorials and assignments.

According to our study, 351 participants, or 65%, believe that there is a possibility of replacing traditional courses with EAD given the many advantages that this mode of learning offers. [13-14]

This is in contrast to 34% who answered negatively because they consider lectures to be a time for listening, taking notes and exchanging with the teacher. This can also be explained by the specificity of dental studies where EAD cannot replace the PPAs and clinical internships which occupy an important place in the training of future dentists. [15]

This result is similar to that observed in different satisfaction surveys conducted in: Taiwan and Portugal [8-9]

The responses regarding the degree of satisfaction of students with their education during this critical period were not identical.

We noted that 66% of students were somewhat satisfied to very satisfied with distance education compared to 33.4% who were not very satisfied to dissatisfied.

Another study conducted at the University of Medicine in Sarbone, France, revealed that the majority of participants seemed satisfied with their experiences with ADE during the health crisis. [10]

5. Recommendation

Based on the results of the survey and the comments expressed by the students and their suggestions for improving the distance learning experience, we were able to make their recommendations regarding the following:

1) Set up a well-prepared, well-thought-out, quality distance learning system;
2) Equipping students with computers;
3) Ensure a free high-speed connection;
4) Develop accessible and simpler platforms;
5) Adapting the pace of courses to the learning pace of students;
6) Strengthen communication between faculty and students;
7) Train faculty as well as students in various computer and technology tools.

6. Conclusion

The experience we have just lived, although it was done in urgency and pain, has allowed us to see in practice the effects of ICT and has shown the effectiveness and relevance of EAD in the pursuit of studies and the continuity of the different pedagogical and didactic tasks. This being said, distance learning represents a good alternative for both teachers and learners.

However, EAD, although it seems possible that it can replace lectures at the level of dental studies, it cannot replace the APAs and clinical internships that occupy an important place in the training of the future dentist.

However, much remains to be done to improve the quality of distance education in medical schools.

To achieve this, the participation of teachers, students and administrative personnel is necessary.

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