Proceedings of International Conference on

Studies in Education and Social Sciences

DECEMBER 3-6, 2020 ISTANBUL/TURKEY

PROCEEDING BOOK

EDITOR

Dr. Richard Thripp

istes Organization

www.icses.net

Volume 1, Pages 1-34

Proceedings of International Conference on Studies in Education and Social Science

ISBN: 978-1-952092-14-5

Edited by: Richard Thripp

Articles: 1-6

Conference: International Conference on Studies in Education and Social Science (ICSES)

Dates: December 3-6, 2020

Location: Istanbul, TURKEY

Conference Chair(s):

Dr. Richard Thripp, University of Central Florida, United States

Dr. Vaughn M. Bradley, Walden University, United States

The submissions are subject to a double-blind peer review process by at least two reviewers with expertise in the relevant subject area. the review policy is available at the conference web page: www.icses.net

Organizing Committee

Janice Fournillier, Georgia State University, United States
Wilfried Admiraal, Leiden University, Netherlands
Elizabeth (Betsy) Kersey, University of Northern Colorado, United States
Aehsan Haj Yahya, Beit-Berl College, Israel
Alaa AlDahdouh, University of Minho, Portugal
Augusto Z. Macalalag, Arcadia University, United States
Bhesh Mainali, Rider University, United States
Janez Jamsek, University of Ljubljana, Slovenia
Josiah Zachary Nyangau, Louisiana State University, United States
Kent Löfgren, Umeå University, Sweden
Laurie Murphy, Saint Joseph's College, United States
Marelbi Olmos Perez, Universidad Tecnológica de Bolívar, Colombia
Masood Badri, UAE University, United Arab Emirates
Monica Reichenberg, University of Gothenburg, Sweden
Phu Vu, The University of Nebraska at Kearney, United States
Qian Wang, Manhattan College, United States
Rachid Ait Maalem Lahcen, University of Central Florida, United States
Wei Zakharov, Purdue University, United States
Zhanat Alma Burch, Duke University, United States

Table of Contents

International Conference on Studies in Education and Social Sciences
www.icses.net December 3-6, 2020 Istanbul, TURKEY www.istes.org

Online Music Education in the Era of COVID-19: Teaching Instruments in Public Music Secondary Schools of Greece During the 2020 Lockdown

Antonis Ververis
University of Ioannina, Greece, ververis@uoi.gr
ORCID: https://orcid.org/0000-0003-1798-6550

Aristeidis Apostolis
University of the Aegean, Greece, aristeidis.apostolis@gmail.com
ORCID: https://orcid.org/0000-0001-7760-8143

Abstract: In spring 2020, members of the educational community in Greece experienced an unprecedented situation as a general lockdown due to the COVID-19 pandemic led to a two-month closure of schools. During this period, educators of all levels attempted to maintain contact with their students and teach remotely, mainly through synchronous and asynchronous distance-learning technologies, despite their lack of previous experience. The purpose of the present study was to investigate the actions that took place in the 48 Public Music Secondary Schools of the country during these two months. These actions were pertinent to the tutoring of musical instruments which is a basic part of the school curriculum. The participants were 87 instrumental music teachers, who worked in this type of school during the school year 2019-2020 and responded to a relevant questionnaire. Through this study, the researchers aim to record the methodologies followed by these teachers, exploring the benefits as well as the problems that arose during this process and providing suggestions that could contribute to the improvement of distance music education in the future.

Keywords: Instrumental music education, Distance learning, ICT in education

Introduction

With the exception of some historical technological advances such as music typography, serious interest in the introduction of technology in Music Education was not observed until the 1960s and 1970s, when audiovisual media (vinyl records, cassettes, videocassettes) and computers entered music classes (Taylor, 1981; Makropoulou & Varelas, 2009). Androutsos (2003) argued that although technology cannot replace the face-to-face teaching of a music educator, its usefulness lies in the fact that it provides visual feedback on an art that is essentially aural. Nevertheless, another even greater change occurred during the 1990s with the appearance of the Internet, which gradually transformed the spatiotemporal nature of Music Education, moving it from the school campus to an online music community with a supra-local character (Rontogianni, 2011).

As a result, nowadays more and more teachers are offering online instrument lessons, utilizing the capabilities of video conferencing platforms and, thus, expanding their circle of students. In addition, students from remote areas are given the chance to study the instrument they wish, even if there is no specialized teacher in the area, while advanced students have the opportunity to attend lessons or seminars with acclaimed musicians from every part of the world without having to travel (Brändström et al., 2002; Dumlavwalla, 2017). On the other hand, despite the solutions that it may offer, online music teaching is still incapable of adequately transmitting elements such as the technical or emotional aspects of a music performance (He, 2020). This fact may partially justify the current limited use of online music education in educational institutions such as schools, universities, and conservatories.

Unexpectedly though, this situation suddenly changed a few months before this study took place, when educators around the world experienced an unprecedented situation due to the COVID-19 pandemic which led

Ververis A. & Apostolis, A. (2020). Online Music Education in the Era of COVID-19: Teaching Instruments in Public Music Secondary Schools of Greece During the 2020 Lockdown. In R. Thripp (Eds.), *Proceedings of ICSES 2020-- International Conference on Studies in Education and Social Sciences* (pp. 1-9), Istanbul, TURKEY. ISTES Organization.

to general lockdowns and closure of schools. During the period of lockdown, educators of all levels tried to maintain contact with their students and teach remotely, mainly through synchronous and asynchronous distance-learning technologies. Even when schools reopened, technology remained in the center of the teaching and learning process, as the great majority of schools adopted either fully remote instruction or a hybrid/blended model (Liu, 2020). In Greece, the Ministry of Education decided the closure of all educational institutions of the country, from March 11 to May 11, 2020, a two-month period in total.[1]

The purpose of this research study was to investigate the actions that took place in the 48 Public Music Secondary Schools of the country during these two months. These actions were pertinent to the tutoring of musical instruments which is a basic part of the school curriculum. The participants were 87 instrumental music teachers who worked in this type of school during the school year 2019-2020 and responded to a relevant questionnaire. Through this study, the researchers aim to record the methodologies followed by these teachers, exploring the benefits as well as the problems that arose during this process, providing suggestions that will contribute to the improvement of distance music education in the future.

Distance Learning of Musical Instruments

According to Pagge (2016), in distance learning, the teacher and the student communicate from different localities, with the aid of technology. Vrettaros et al. (2004) identify three basic types of distance learning. In the first one, *self-paced learning* or *self-learning*, the learner adjusts the learning pace by using available educational material (books, applications, videos, etc.), without, however, being able to collaborate with classmates or the instructor. The same happens in *teaching with asynchronous collaboration*, but with the difference that there is a possibility of (asynchronous) communication and exchange of views with the co-learners or with the instructor. Finally, in *teaching with synchronous collaboration*, participants participate by video conference in a virtual classroom, where they can talk live with their classmates or instructor (Vrettaros et al., 2004).

It is worth noting that the element of self-learning mentioned above is a key feature of informal music learning, a term proposed and analyzed thoroughly by Lucy Green in her classic work *How popular musicians learn*. According to Green (2002), the British popular musicians who participated in her study, spent many hours trying to "learn by ear" melodies they listened to on cassettes, CDs, etc. The results of a similar study by Cayari (2011), almost a decade later, suggest that this practice was popularized significantly due to the birth of YouTube, the use of which was not only limited to finding recordings. According to Whitaker et al. (2014), in addition to music videos, YouTube now hosts hundreds of "educational videos" aimed at both beginners and advanced musicians.

Regarding asynchronous learning, Dammers (2009) observes that, despite the successful results of its use in various other educational fields, in the case of instrumental music education, it can only play a complementary role due to the synchronous nature of teaching an instrument. The same, however, also seems to be true in the case of synchronous distance learning despite the rapid technological progress, as the delay resulting from signal compression and data transmission, precludes the possibility of simultaneous real-time online playing. Nevertheless, synchronous distance learning can be effective when combined with "traditional" face-to-face lessons, offering an alternative to students living in isolated areas where there is a workforce need for music teachers (Riley, 2009; Heavner, 2011).

According to Brändström et al. (2002), a video conferencing lesson demands very good planning and flexibility from teachers as it seems to be more intense compared to a face-to-face lesson. Analyzing the results of their study in Nordic countries, these researchers emphasize the importance of a teacher's ability to use words to describe the positive aspects and weaknesses of a student's performance, while their comments are more productive when students are allowed to play without frequent interruptions.

Finally, various researchers have suggested the following interesting strategy that combines elements of both synchronous and asynchronous teaching: Students videotape themselves playing and then send the video to their

1At the time these lines were written, in November 2020, a second wave of the pandemic led to another lockdown and closure of schools.

teacher or post it on a platform such as YouTube, waiting for feedback and further instructions. Thus, teachers have the opportunity to see and hear their students playing without audio/video delays and interruptions, while students' videos can serve as a topic of discussion during synchronous teaching (Shoemaker & van Stam, 2010; Koutsoupidou, 2013).

Online Music Education during COVID-19 Pandemic

According to Thornton (2020), during the pandemic period, music educators worldwide found creative solutions in order to continue their teaching remotely, showing also a sense of fellowship by sharing their ideas with their colleagues mainly through the Internet. Thus, music teachers used social networking sites to share material they had created such as videos, rubrics, accompaniments, games, lesson plans, songs, tracks etc. helping other teachers teach their students.

Of interest are the results of a survey with the participation of 300 instrumental music teachers, conducted by ABRSM (Associated Board of the Royal Schools of Music), one of UK's largest music education bodies, music publishers and providers of music exams. According to this survey, 87% of the participants claimed that during the pandemic, they effectively adapted to online teaching despite their lack of relevant previous experience, a fact that made them feel confident about using video conferencing applications in the future, as well. However, it should be mentioned that 93% of the teachers that delivered online lessons considered teaching online a more difficult task compared to teaching face-to-face. They also referred to specific challenges they faced during online lessons, such as the poor quality of audio and the delay experienced on video calls, which made it difficult for them to assess or accompany their students. Furthermore, for some students it was difficult to have access to their instruments or find a quiet place to have their lesson undisturbed (ABRSM, 2020).

According to some researchers, the fact that not all students had access to digital resources or musical instruments during lockdown may have resulted in the furthering of existing social inequalities. As Nichols (2020) points out, the closure of schools proved to be particularly devastating to students living in low-income rural areas of United States due to limited access to digital technology, while British researchers Alison Daubney and Martin Fautley (2020) expressed a similar concern:

> A possible worry for post-lockdown is that children and young people will have had very different experiences of musical activity and learning in lockdown. The more well-off may well have their own laptops and tablets, with unlimited Wi-Fi, and a room of their own in which to practice, or at least to escape to. The less well-off may well be sharing devices, or have no access at all, physical space is likely to be at a premium, and just keeping body and soul together may well have been the primary concern of them and their carers (Daubney & Fautley, 2020, p. 111).

Two of the reports on music teaching during the pandemic come from Scotland. The aim of a study commissioned by Music Education Partnership Group (MEPG) was to investigate "what happened in music education across Scotland in the early months of COVID-19 pandemic in both formal and non-formal settings" (Moscardini & Rae, 2020, p. 3). The participants were 201 teachers/tutors, 60 students, 70 parents/carers and 25 youth music organizations. Although the great majority of the respondents (87%) were involved in online musical activities during the previous six months, a fact indicating a transition from face-to-face to online music practices, 62% of teachers did not feel adequately prepared for this transition, which did not occur without problems. Furthermore, despite the almost unanimous view that online teaching cannot replace face-to-face teaching and its social aspect, students agreed that continuing music lessons alongside peers helped them maintain their mental health during the lockdown period. It should be pointed out, however, that according to teachers there were specific groups of students that participated less in online music education and, therefore, benefitted less from this form of tuition. These groups included young people who are care-experienced, more vulnerable, have experienced trauma, or have sensory impairments (Moscardini & Rae, 2020).

The study by the Educational Institute of Scotland is somehow unique as it was conducted right after the re-opening of schools in August 2020. The participants were 176 educators that offer instrumental music tuition in schools of Scotland. As the results of this study suggest, after the re-opening of schools, 18% of the participants taught their lessons face-to-face with their students in school, 29,33% taught remotely, while 52,67% adopted a blended approach. The participants also expressed their concern about equity issues regarding access and

resources, the constant challenge of students' engagement, in addition to the instability and extension of their schedule (Educational Institute of Scotland, 2020).

As for higher education, Ozer and Ustum (2020) interviewed 24 music students from universities of Turkey about the problems they faced during the Covid-19 distance education process. An interesting point of this study concerns the students' different views on the effectiveness of distance learning in theoretical and applied courses. More specifically, 13 (54,2%) students had positive opinions of the online lessons that took place in the context of theoretical courses. However, when they were asked about the online lessons in applied courses such as the learning of instruments, 21 (87,5%) expressed negative feelings. Furthermore, they attributed the limited success of distance learning to problems such as the bad quality of internet connection, inadequate environment, lack of educational material, and difficulties in adapting to the distance education system. Especially for the online lessons of instruments, they claimed that this process made them lazy as they could not work alone efficiently.

Finally, the closure of schools also affected the training of future music teachers at universities, as many of them had to complete their teaching placements by interacting remotely with students that they might have never met in person (Thornton, 2020). Chrysostomou and Triantafyllaki (2020) describe their experience as University of Athens professors, whose forty-three undergraduate students were forced to complete their teaching placement online. According to the researchers, the transition from face-to-face to online environments highlighted the need for more flexible pedagogical models in addition to a greater emphasis on the development of technological knowledge and skills in pre-service teachers' training programs.

The Study

The present study was conducted in June 2020, almost a month after the decision of the Greek Ministry of Education for the reopening of all schools, including the Music Secondary Schools, in the country. Music Secondary Schools (or just 'Music Schools') are public schools (government-funded) with an extended school-day in which students are taught the same courses as in all secondary schools according to the National Curriculum, in addition to music-related subjects and individual instrumental lessons. For the collection of data, a questionnaire was sent by email to all 48 Music Schools and was filled in by teachers who taught instruments during the school year 2019-2020.

In their email, the researchers informed the participants about the aims of the study and clarified that their intention was not to evaluate their work or the school in which they served. In addition, the questionnaire was distributed on social media for a period of one week. The questionnaire included open-ended and closed-ended questions on various topics such as demographics, type of distance learning methods adopted (if selected), platform used, teaching methods, problems that may have arisen, advantages, etc. Besides these questions, some others were included for triangulation purposes.

Synchronous vs. Asynchronous Distance Learning

The participants were 87 music teachers, 54 women and 33 men of different age groups and years of work experience.

Table 1. The Participants

Variables		N	Mean
Gender	F	54	62.1
	M	33	37.9
Age	18-29	13	14.9
	30-39	33	37.9
	40-50	25	28.7
	50+	16	18.4
Work experience	0-4	25	28.7
	5-9	19	21.8
	10-15	17	19.5
	15+	26	29.9

Regarding the instruments they taught, 32.2% of the participants taught traditional instruments while 67.8% taught classical instruments.

Table 2. Music Genres and Instruments

Variables		N	Mean
Genre	Traditional	54	62.1
	Classical	33	37.9
Instrument	Piano	34	39.1
	Percussions	6	6.9
	Guitar	5	5.7
	Santouri	5	
	Folk clarinet	4	4.6
	Flute	4	
	Violin	4	
	Cello	3	3.4
	Qanun	3	
	Accordion	3	
	Clarinet	3	
	Trombone	2	2.3
	Greek lute	2	
	Tabouras	2	
	Saxophone	1	1.1
	Horn	1	
	Bassoon	1	
	Mandolin	1	
	Ud	1	
	Trumpet	1	
	Bouzouki	1	

As distance learning during the closure of schools was optional, one of the questions was whether the participants agreed to continue teaching remotely through synchronous or asynchronous distance learning. First of all, it should be mentioned that 7 (8%) of the participants decided not to have any lessons during this period. The researchers would like to express their doubts about this percentage, since the distribution of the questionnaire via the Internet may have been a deterrent for some teachers, due to their unfamiliarity with digital technology. For the same reason, these teachers, most likely, did not participate in distance learning either. Due to the small number of these teachers, their responses about the reasons that led them to discontinue their lessons during this period, were examined in a more "interpretive" way, without attempting to draw general conclusions.

More specifically, according to these teachers, a major problem they faced regarded students' limited access to instruments at home, especially in cases of expensive ones. For example, one horn teacher reported that the "students did not have the instrument they were learning at home." In addition, technical problems related to the registration and use of the *Greek School Network*, the national network of the Greek Ministry of Education, were reported, as well as problems with video and audio synchronization during video calls. Finally, one indicative comment was the response by one traditional percussions teacher about his lack of digital skills: "lack of digital skills. I need equipment and someone to explain to me what this tool is."

Regarding distance learning: 36 (41.4%) participants stated that they only did synchronous teaching; 32 (36.8%) wrote that they followed a combination of synchronous and asynchronous teaching; while 12 (13.8%) stated that they did only asynchronous teaching. However, the analysis of participants' answers to closed and open-ended questions, revealed a confusion as to what exactly synchronous and asynchronous teaching is, while in practice, the majority seems to have followed a combination of both. For example, of the 80 teachers who continued teaching during the lockdown, 61 (70.1%) reported that they sent or exchanged videos and/or recordings with their students, a practice of asynchronous teaching; this can also be considered a combination of synchronous and asynchronous teaching when the teacher and the student discuss these videos through synchronous communication. A second review of the data indicated that, in fact, 19 (21.8%) participants had adopted a synchronous teaching method, 10 (11.5%) chose asynchronous teaching, while 51 (58.6%) participants followed a combination of synchronous and asynchronous teaching practices.

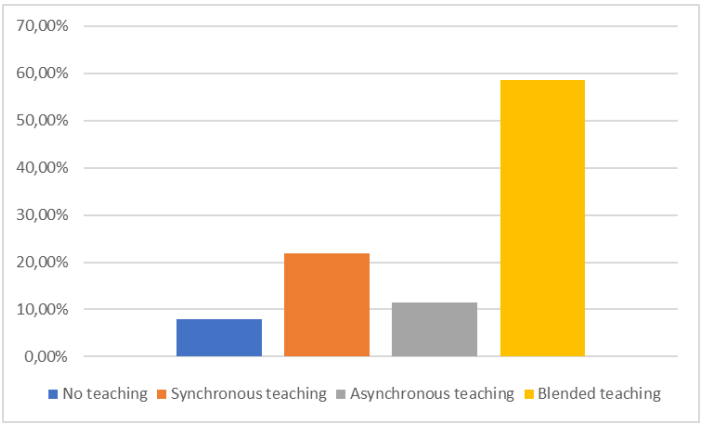


Figure 1. Teaching Methods Adopted during Lockdown Period

The clear preference for a combination of synchronous and asynchronous teaching probably highlights the weaknesses of both types of distance learning when used separately. A frustration with synchronous teaching emerges from the participants' narratives. For example, one piano teacher initially tried to teach in the way she taught in face-to-face lessons but realized immediately that such a thing was impossible: "Since synchronization was problematic we could not count or accompany (our students) by singing." Apparently, most of the participants quickly realized that their lessons could not have the interactive character as before, and thus, in most cases, resorted to the solution of audio recordings. One guitar teacher said: "The problems were related to the children's live performance of the pieces (due to ineffective equipment or connection instability), which immediately led to the recording solution, which worked positively." Another guitar teacher reported how helpful it was for students to record themselves:

> Children got into this process, not just because we could not do it at school, but because of the poor quality of the live performance (issues of Internet instability and inadequate quality of the children's equipment) and, eventually, it became a necessity. Even though it was just a recording from a mobile phone, this process made all the difference, as it motivated and greatly helped them in practicing their instrument.

The technical problems that occurred during the video calls led one santouri[2] teacher to similar practices: "Based on the music scores I uploaded, the students had to make their own videos and send them to me in case of network problems (which were very common)." In addition to using videos and recordings, participants described other ways in which they used elements of asynchronous education in their synchronous teaching. For example, one piano teacher reported that she uploaded "videos and links about the history of the instrument, scores of pieces written for the instrument, and recordings by great musicians" to the asynchronous teaching platform.

Last but not least, the researchers would like to mention the small percentage of participants who exclusively adopted asynchronous teaching practices, and investigate the reasons why these teachers had rejected synchronous teaching. Here, too, an attempt to teach through audio and video recordings was observed. Additionally, as it proved too difficult for them, some of the participants decided to teach music theory instead, by posting relevant material. As for the reasons that led the educators to reject synchronous teaching, these were related to problems that have already been mentioned, such as the quality of sound, the connection, and the absence of the instruments in students' homes. Interestingly, several ideological-ethical issues were also reported. For example, one piano teacher reported that teaching via video conferencing could lead to an "underestimation of the importance of the physical presence of the student-teacher dyad". A final concern was about the legal correctness of the whole process. As one saxophone teacher stated: "We were not legally authorized to communicate with minors via camera."

2 Greek folk instrument of the Hammered Dulcimer family

Summarizing the Problems

As is evident from the above, the main problems observed during synchronous teaching were issues of quality and synchronization of image and sound, in combination with poor Internet connection. One of the many negative references to sound quality belongs to a piano teacher who stated:

> The sound did not come immediately and it was of very poor quality. Often, there was no sound at all. So I limited my teaching to the correct reading of the score, without being able to effectively correct rhythmic errors. As a result, working with students who had rhythm problems, proved to be a real challenge.

Some of the participants gave detailed descriptions of the technical problems that were related to sound, referring to fluctuations in volume, as well as audibility problems in the notes of high and low frequencies, since the platforms used, were originally designed for the transmission of speech, not music. In the case of the piano, distortion was observed particularly during the use of the pedals, while in polyphonic instruments, the inaudibility of some notes played was observed during the playing of chords.

Other problems regarded the inability to communicate with the students as described by one piano teacher: "Communication with the student was difficult. The lesson was tiring for both of us." Availability of devices in students' homes proved to be an obstacle, as one violin teacher described: "Quite often, I had to find a common time slot [for the lesson] outside the school schedule because the parents or other children of the family, had to also make use of the available devices and the network bandwidth." Another piano teacher also reported the distraction in some students' houses:

> Most of the students had the piano in the living room and could not concentrate due to the movements of the rest of the family. This made me feel bad too because I had invaded the family's private space; a practice which is unacceptable. I fully understand the parents who forbid their children to participate.

As for the musical part of the lesson, it seems that the most problematic part was that of teaching technique. This problem was more obvious in novice students, whose lessons were limited to learning pieces, without the necessary technique correction by the tutor, as described by one guitar teacher:

> The best cases of new students were those who had managed to learn at least one new piece during the quarantine by studying the score that I had given them. Unfortunately, I could not give proper guidance to the correct positioning of body and hands because, even though I could see that something was wrong, it was not possible to fix it, just by using words.

Furthermore, what was very disappointing was when the playing technique problems, which were considered solved, reappeared in advanced students. As one violin teacher characteristically said: "The correct posture of the student was gradually worsening, because it was difficult to correct the student without my physical presence, no matter how explicit I was in describing the problem." For advanced students, teaching about style also proved to be challenging. In addition, depending on the students' level, a different way of correction was mentioned, as one piano teacher stated: "If it was an advanced student, I did not interrupt him and the corrections were made at the end of each piece. If it was a beginner, I could intervene if necessary."

Finally, the majority of the participants reported problems with the WebEx platform which was considered unsuitable for lessons of musical instruments. According to their responses to the questionnaire of the study, from the 61 participants who adopted synchronous teaching, only 28 (45.9%) used the WebEx platform exclusively, although it was the platform that was recommended officially by the Ministry of Education.

Conclusion

As the results of the present study suggest, the majority of teachers who delivered online lessons of music instruments adopted a blended method that combined synchronous and asynchronous teaching. Most of these

teachers used synchronous collaboration to communicate with their students, while, at the same time, they exchanged video and audio recordings, which is a form of asynchronous teaching. The main reason why teachers resorted to this combination was because of a series of technical problems that occurred when they tried to perform live during video calls. It is also worth noting that this practice has been mentioned by various studies referred to in the literature review of this article (Shoemaker & van Stam, 2010; Koutsoupidou, 2013).

Of these problems, what undoubtedly seemed to be the most serious was that of a lack of video and audio synchronization, in addition to connection problems, while other technical problems concerned sound quality (volume fluctuations, audibility problems at specific frequencies, distortion, etc.). The use of the audio and video recordings, although partly a solution to these problems, limited the content of the lessons to that of "teaching just pieces", without addressing technique or stylistic elements. Besides these, other problems reported concerned the students' lack or inaccessibility of the musical instrument, the teachers' inability to communicate with their students, the shortage of available devices (computer, tablet, etc.), as well as the distraction from other members of the family.

In conclusion, it should be noted that although the great majority of participants could not think of any advantages of distance learning, there were some exceptions. These teachers referred to the elements of asynchronous teaching, such as sending and receiving material that would be difficult for students to explore during lessons, as well as the absence of spatial-temporal limitations, since both students and teachers could visit and edit the available material whenever and as long as they wished. This does not mean that distance music teaching can replace the value of teaching with physical contact and face-to-face communication between student and teacher, at least according to existing technological achievements. Nevertheless, practices of asynchronous learning can significantly enrich a music instrument lesson, even when it is done in the "traditional" face-to-face way.

References

ABRSM. (2020). *Instrumental Music Teaching During Lockdown.* https://gb.abrsm.org/media/64339/abrsm-instrumental-music-teaching-during-lockdown-27-may-2020.pdf.

Androutsos, P. (2003). *I chrisi tis technologias ke idietera ton polymeson ke tou video sti mousiki ekpaidefsi* [The use of technology and especially of multimedia and video in music education]. *Mousiki ekpedefsi, 13*(4), 5-21.

Brändström, S., Wiklund, C. & Lundström, E. (2012). Developing distance music education in Arctic Scandinavia: Electric guitar teaching and master classes. *Music Education Research, 14*(4), 448-456.

Chrysostomou, S. & Triantafyllaki, A. (2020). Transitioning to online music teacher education: Challenges and opportunities for knowledge development. In R. E. Ferdig, E. Baumgartner, R. Hartshorne, R. Kaplan-Rakowski & C. Mouza (Eds.), *Teaching, Technology, and Teacher Education During the COVID-19 Pandemic: Stories from the Field* (pp. 443-448). Association for the Advancement of Computing in Education. https://www.learntechlib.org/p/216903/.

Cayari, C. (2011). The YouTube effect: How YouTube has provided new ways to consume, create, and share music. *International Journal of Education & the Arts, 12*(6). http://www.ijea.org/v12n6/v12n6.pdf

Dammers, R. J. (2009). Utilizing Internet-Based Videoconferencing for Instrumental Music Lessons. *Update: Applications of Research in Music Education*, *28*(1), 17–24.

Daubney, A. & Fautley, M. (2020). Editorial Research: Music education in a time of pandemic. *British Journal of Music Education*, *37*(1), 107–114.

Dumlavwalla, D. (2017). Transitioning from traditional to online piano lessons: Perceptions of students, parents and teacher. *MTNA e-Journal, 8*(3), 2-20.

Educational Institute of Scotland. (2020). *Instrumental Music Teacher Survey – September 2020*. https://www.eis.org.uk/Content/images/IMT/IMT Sept 2020 Survey Report.pdf

Green, L. (2002). *How popular musicians learn: A way ahead for Music Education.* Oxon: Routledge.

He, Y. (2020). Research on Online Teaching of Music Performance Based on Diversification and Intelligence: Take the Online Music Teaching during the COVID-19 as an Example. In L. O'Conner (Ed.), *Proceedings of International Conference on E-Commerce and Internet Technology* (pp. 193-196). Los Alamitos, CA: IEEE.

Heavner, T. (2011). Teaching Instrumental Music Lessons via the Internet. *International Journal of Arts & Sciences; Cumberland, 4*(21), 307–313.

Koutsoupidou, T. (2013). Online Distance Learning and Music Training: Benefits, drawbacks and challenges. In. A. Lionarakis (Ed.), *Proceedings of the 7th International Conference in Open & Distance Learning* (pp. 143-152). Athens: Hellenic Network of Open and Distance Education.

Liu, C. W. (2020). Navigating Music Teaching in Uncertain Times. *General Music Today*. https://doi.org/10.1177/1048371320961384

Makropoulou, E. & Varelas, D. (2009). *Plug and Play: I nees technologies sto mathima mousikis* [Plug and Play: The new technologies in the music lesson]. Athens: Fagotto.

Moscardini, L. & Rae, A. (2020). *We make music online: A report on online instrumental and vocal teaching during the Covid-19 lockdown*. Music Education Partnership Group. DOI: 10.13140/RG.2.2.20242.89289.

Nichols, B. E. (2020). Equity in Music Education: Access to Learning during the Pandemic and Beyond. *Music Educators Journal*, *107*(1), 68–70.

Ozer, B. & Ustun, E. (2020). Evaluation of Students' Views on the Covid-19 Distance Education Process in Music Departments of Fine Arts Faculties. *Asian Journal of Education and Training*, *6*(3), 556-568.

Pagge, T. (2016). *Ekpedeftiki technologia ke efarmoges diadiktyou* [Educational technology and Internet applications]. Thessaloniki: Disigma.

Riley, P. (2009). Video-conferenced music teaching: challenges and progress. *Music Education Research, 11*(3), 365-375.

Rontogianni, M. (2011). Mousiki technologia ke mousiki ekpedefsi: Istoriki exelixi ke sichroni provlimatismi [Music technology and music education: Historical development and contemporary reflections]. *Mousikopedagogika*, *9*(1), 79-95.

Rudolph, T., Richmond, F., Mash, D. & Williams, D. (1997). *Technology strategies for Music Education.* Wyncote, PA: Technology Institute for Music Educators.

Shoemaker, K. & van Stam, G. (2010). e-Piano: A case of Music Education via e-learning in rural Zambia. In W. Hall, J. Hendler, C. Lagoze, C. Pope & A. Schreiber (Eds.), *Proceedings of the Web Science Conference, WebSci10: Extending the Frontiers of Society*. Raleigh: Web Science Trust.

Taylor, J. (1981). Music. In A. Kent, H. Lancour & J. Daily (Eds.), *Encyclopedia of Computer Science and Technology: Volume 31* (pp. 74-115). New York: Marcel Dekker.

Thornton, L. (2020). Music Education at a distance. *Journal of Music Teacher Education, 29*(3), 3–6.

Vrettaros, G., Giannopoulou, N., Kouremenos, D. & Kouremenos, S. (2004). *I mathisi meso diktyon H/Y ke tou Kivernochorou* [Learning through Computer Networks and Cyberspace]. Athens: Klidarithmos.

Whitaker, J. A., Orman, E. K., & Yarbrough, C. (2014). Characteristics of "Music Education" videos posted on YouTube. *Update: Applications of Research in Music Education, 33*(1), 49–56.

International Conference on Studies in Education and Social Sciences
www.icses.net December 3-6, 2020 Istanbul, TURKEY www.istes.org

E-Learning: A Panacea to Medical Education during the COVID-19 Crisis

Amr Maani
University of London, UK, am1051@london.ac.uk, ORCID: https://orcid.org/0000-0002-3687-8654

Abstract: The 2019 Coronavirus pandemic (COVID-19) has affected medical education tremendously. It has posed a challenge to medical tutors and institutions, almost questioning their ability to adapt to this situation. Medical education is hospital-based. As such, everyone affiliated with the medical institution including students in health professions and clinical tutors as potential carriers. It is important to note that the outbreak of SARS-CoV-2 was sudden and took the world by surprise, and was declared a pandemic by The World Health Organization. Medical institutions were therefore challenged and educators were compelled to switch to an online mode of teaching almost overnight. Many institutions of learning that were reluctant to change their conventional teaching methods had to adapt to the new reality. But then, it is pertinent to state that schools are faced with a new challenge, which is revitalizing the need for virtual education and online learning opportunities. Most institutions of learning have responded to the lockdown measures by shifting to a video-based or live online learning pattern. Challenges faced under this situation would include maintaining the excellent standard that medical education is known for, maintaining on stream clinical learning, and minimizing any disruptions that accompany pandemic conditions. Adapting to this situation will help to prepare potential clinicians for practice. This article will discuss the effect that the pandemic may have on medical education, while also highlighting the advantages of online learning as well as the integration of virtual simulation into medical education.

Keywords: COVID-19, Medical education, Virtual education, Online learning, Simulation

Introduction

The 2019 Coronavirus disease has had a great influence on members of the community and disrupted all aspects of life, including healthcare professionals who offer front-line care for patients. It can be said without a doubt that medical education has also been affected. Most educationists and institutions are faced with the challenge of how best to adapt to this new situation. Medical education is hospital-based. As such, medical students, clinical tutors, and mentors work frequently in very hard circumstances, making them potential carriers and victims of this virus (Ahmed, Allaf, and Elghazaly, 2020). Under this condition, medical institutions and educators are faced with the challenge of training future doctors (Rose, 2020). There is a need for immediate response to the growing concerns among medical students, to help them move from panic to tactical resolution of this problem, and also to channel their energy into revitalizing medical education based on what has been learned from the pandemics.

It is worth noting that universities globally have responded to the crisis without hesitation. Most institutions of learning have been closed. Emergency contingencies have been enacted such that allow students to carry on with their studies remotely (Brown et al. 2020). It is also worthy of note that the pandemic has more or less revitalized the need for online learning opportunities. Many medical schools have established plans to drastically reduce the disruptions to teaching and assessments (EPALE, 2020). With the many challenges being faced by educational units, it is obvious that there is an urgent need for the revitalization of our institutions of learning. This requires unity. We must protect medical students, academic staff, faculty, communities, societies, and the world in general. Several arguments are associated with online learning. These include affordability, accessibility, lifelong learning, flexibility, and policy.

E-learning has a wider reach compared to conventional teaching methods. It is cheaper in terms of the reduced cost of transportations, institution-based learning, and accommodation. Another factor that makes online learning interesting is its flexibility. A student can plan or schedule his or her time for course completion. It is also worth knowing that online education can increase the student's learning potential as technology births

Maani, A. (2020). E-Learning: A Panacea to Medical Education during THE COVID-19 Crisis. In R. Thripp (Eds.), *Proceedings of ICSES 2020--International Conference on Studies in Education and Social Sciences* (pp. 10-13), Istanbul, TURKEY. ISTES Organization.

flipped classrooms and bended learning. Medical students are at liberty to learn anywhere and at any time, thus learning new skills in our ever-dynamic world.

Disruptive Impact of COVID-19 Pandemic to Medical Education

Undergraduate Education

For preclinical students, the COVID-19 pandemic has had a not-so-serious effect on their daily routine compared to students in the clinical. Activities at the preclinical level are mostly lecture-based and vary based on the institution. Some institutions do more lectures while others do the lectures a little above 20-25% of the time (AAMC). The last decade has witnessed a steady decline in in-person attendance to lectures. A 2017 survey conducted by the American Association of Medical Colleges reported that less than 50% of medical students in their second years attended lectures often. Students in this category were more satisfied with pre-recorded materials (Data & Reports AAMC; Emmanuel, 2020).

Strict adherence to lockdown and social-distancing measures has caused a cessation of workshops and small group discussions. These activities have always featured a discussion of concepts between students, peers, and the faculty. Some of these have been replaced by video conferencing. There has been a total shutdown of study and learning spaces such as anatomy laboratories and libraries (Rose, 2020). Basic training experiences usually done in the preclinical years have been affected, which of course raises fears about insufficient preparation of students for clinical rotations.

It is a fact that video conferencing sessions and pre-recorded lectures can be substituted for some preclinical experiences. However, these substitutions do not exist for one-on-one clinical training. According to William Osler, *"Medicine is learned by the bedside and not in the classroom"* (Standford Medicine). Once they have begun their clinical years, medical students register with multidisciplinary teams and begin a full-time practice of the clinical skills they have learned newly. During this time, they also observe the functioning of the healthcare system. Their experiences help them to decide what area of medicine they would love to specialize in. The pandemic has caused the evacuation of medical students from inpatient and outpatient areas in a bid to minimize transmission of the virus, mitigate shortages of personal protective equipment, and also reduce the risk for student infection (Ahle, 2020; COVID-19 AAMC).

Graduate Education

It is on record that over 140,500 fellows and resident physicians registered for the Accreditation Council for Graduate Medical Education (ACGM) programs in 2018/2019. This makes up 14% of physicians currently serving in the US. In readiness for the peak pandemic period, ACGME has set in motion three phases of education for the medical graduate. The first stage involves seamless flow of academic activities. The second stage deals with increased demand for clinical services with some fellows and residents focusing on care of the patient as well as suspension of educational activities. The third stage is the pandemic emergency status. In this stage, most fellows and residents have moved to care of the patient. Many house officers were transferred from their areas of specialization to the front lines (ICUs, hospital wards, and emergency departments).

Fellowship and residency programs are available to train doctors via clinical experience. Before the COVID-19 pandemic, student doctors and physicians gathered at the patient bedside to discuss some points. However, because of quarantine measures and increased demand for patient care, these learning opportunities have been dissolved (Ferrel and Ryan, 2020). Also, there has been a reduction in supervised procedural training while physical contact with patients is limited to more experienced professionals. It is also important to note that despite the pandemic, the ACGME insists that trainees be adequately trained and supervised, and this must not affect their work hours. It is also worthy of note that regulatory agencies have assessed the ability of trainees to practice unsupervised (ABMS & ACGME Joint Principles).

With the limits being placed on elective surgeries, fellows and residents in the surgery unit may have difficulty carrying out procedures required for independent practice and licensure. While we are unsure of the implications of these, we are much concerned about the inadequate training given to proceduralists (Almarzooq, Lopes, and Kochar, 2020). As the academic session ends and new doctors move into the workforce, there is the likelihood

of orientation sessions becoming virtual. Also, interviews for fellowship and residencies may most likely be done virtually.

The Role of Virtual Reality

The safety of medical students is very important during the pandemic. Medical institutions have to make solid investments in individualized learning as well as in technologies required for virtual assessments of the student's competency (EPALE, 2020; Chan and Zary, 2019). Virtual simulation tools are well designed and furnished to prepare best practice insights to students, giving them adequate preparation for real-world practice. Of course, these tools will be improved over the coming years (Chan and Zary, 2019; Zweifach and Triola, 2019; Tabatabai and Javadi, 2019). Simulation technologies can help to transform virtual medical education. For one, these technologies allow for a quick transition of medical education to a virtual environment (Tabatabai and Javadi, 2019; Nestel and Bearman, 2015). With these technologies, clinical tutors can create simulated meetings, review clinical decisions via simulated clinical experiences, and also organize video conferencing, thus facilitating virtual education (Maani, 2020). By using the virtual reality software, it is possible to change the manual process (usually time-consuming) and create an integrated approach thus improving clinical outcomes.

With virtual reality, students can access the clinical scenarios using their mobile devices or computers irrespective of their location, improve task flows, and create remote learning parameters suitable to the requirements of the program. There is no doubt that there are several issues attached to E-learning. However, in times like these, we cannot ignore its perks. Whatever difficulties exist will have solutions. Video lectures can be pre-recorded to curtail technical difficulties. The tutor can also test the content after pre-recording. Online learning should be interesting, dynamic, and interactive. Tutors should set time limits and reminders to attract the attention of students. Communication can be enhanced by creating social media groups. Communication is paramount! Content should be created and sent out to students via messaging apps, video calls, and texts. There should be a continuous improvement in the quality of these courses, while teachers should aspire to give their best. Every online learning program should be created in an interesting, student-centered, creative, and interactive way (Partlow and Gibbs, 2003).

Conclusion

The COVID-19 era has brought with it a lot of uncertainty. Medical education is part of it. There is the possibility that medical education will never be the same. Both graduate and undergraduate education have been disrupted, forcing tutors and students to adapt to E-learning while hoping for normalcy to be restored. When used optimally, virtual tools can help us achieve the shared goal of offering both efficient and effective medical education – one that will furnish our next generation of doctors with the skills necessary to provide efficient healthcare services.

Acknowledgment

This research received no external funding.

Conflict of Interest

The author declares no conflict of interest.

References

ABMS and ACGME joint principles: physician training during the COVID-2019 pandemic (2020). Retrieved from https://www.abms.org

Ahle S (2020). COVID-19: the global disrupter of medical education. ASH Clin News. Retrieved from https://www.ashclinicalnews.org

Ahmed H, Allaf M, Elghazaly H. (2020). COVID-19 and medical education. The Lancet Infectious Diseases; 3099(20):30226–7.

Almarzooq Z., Lopes M., Kochar A. (2020). Virtual learning during the COVID-19 pandemic: a disruptive technology in graduate medical education. J Am Coll Cardiol; 75:2635–2638.

Brown M, McCormack M, Reeves J, Brook DC (2020). Educause Horizon Report Teaching and Learning Edition. Louisville: EDUCAUSE.

Chan KS, Zary N. (2019). Applications and Challenges of Implementing Artificial Intelligence in Medical Education: Integrative Review. JMIR medical education; 5(1): e13930.

Covid-19 reviving need explore online teaching and learning opportunities (2020). Retrieved from https://epale.ec.europa.eu

COVID-19: updated guidance for medical students' roles in direct patient care. AAMC. Retrieved from https://www.aamc.org

Data & reports AAMC (2020). Retrieved from https://www.aamc.org/data-reports

Emanuel E.J. (2020). The inevitable reimagining of medical education. JAMA; 323(12):1127–1128.

Ferrel M.N., Ryan J.J. (2020). The impact of COVID-19 on medical education. Cureus; 12(3): e7492.

Krisberg, K. (2017). Flipped classrooms: scrapping lectures in favor of active learning. AAMC. Retrieved from https://www.aamc.org

Maani, A. (2020). The Use of telehealth and telemedicine in medical education: Effects of COVID-19. In I. Sahin & M. Shelley (Eds.), Educational practices during the COVID-19 viral outbreak: International perspectives (pp. 63–80). ISTES Organization.

Nestel D, Bearman M. (2015). Simulated Patient Methodology: Theory, Evidence, and Practice. Chichester: Wiley-Blackwell.

Partlow, K. M., Gibbs, W. J. (2003). Indicators of constructivist principles in internet-based courses. Journal of Computing in Higher Education: 14(2), 68–97.

Rose S. (2020). Medical Student Education in the Time of COVID-19. JAMA; 323(21):2131–2.

Tabatabai S, Javadi MA. (2019). Ophthalmic education and ophthalmologist's growth trends in Iran (1979–2016). J Ophthalmic Vis Res; 14(2):185–94.

Zweifach SM, Triola M. (2019). Extended Reality in Medical Education: Driving Adoption through Provider-Centered Design. Digital Biomarkers; 3: 14–21.

Somaliland's University Students' Online Learning Experiences during the COVID-19 Lock-down

Kahsay Hailu Negash
Adal Medical University, Borama, Republic of Somaliland, kahane2019@gmail.com

Abstract: This study assessed Somaliland's university students' online learning experience during the COVID-19 lock-down. The study is a quantitative study where descriptive survey method was used. Data were collected from a randomly selected 200 students studying in one of the universities located in Somaliland. Data were collected after the lock-down was lifted when the students returned to the face to face classes. According to the research findings, most of the students had access to electricity and internet. The main source of internet was found to be home Wi-Fi . The results also show that majority of the students use internet for educational purposes. However, the type of electronic devices which majority of the students use for their online learning are cell phones. The findings also show that most of the students have ICT skills for their online learning which they acquired through self-study. The minor challenges which the students faced during their online learning included lack of access to internet, educational materials such as books, lack of ICT skills and students' low class attendance. However, a discrepancy was sought in the students' overall online learning experience though in general it is rated above satisfactory.

Keywords: Online learning, Technology based education, E-learning, Somaliland, COVID-19

Introduction

Education in Somaliland has a long history. Quranic schools have started in Somaliland centuries ago. Modern/secular education, however, was introduced by British colonizers (Cassanelli and Farah, 2007), during their scramble for Africa plan when they first arrived in the country in the 1880s. According to The Heritage Institute for Policy Studies (2013) report, Education in Somalia/Somaliland collapsed after a war broke out with its neighboring country Ethiopia in the 1970s. And it was severely affected by the civil war erupted in 1988 and the collapse of the central government in 1991 which in turn caused an 80% of the educated man power to flee the country. However, after Somaliland declared itself as a republic in 1991, a relative peace came back to the country and education reconstructed again. Now, modern education in Somaliland is relatively better than other states in Somalia. Somaliland's Ministry of National Planning and Development (MNPD) (2017) in its second national development plan document states that the country is committed to make education accessible to its citizens and fulfilling the necessary resources for education. At present, the country has above 35 universities.

In explaining online learning, The US Department of Education (2009) defines it as a learning which is given by the internet either partially or fully. Elloumi (2004) also explains that online learning is "an extension of the traditional form of distance education/classroom learning". The author emphasized that online learning is not a replacement of classroom learning. Similarly, Urdan and Weggen (2010) define online learning as one type of technology based learning via the use of internet, intranet and extranet. So, online learning is not e-learning or distance learning (Moore, Dickson-Deane, and Galyen, 2011).

It is also a known fact that online learning was not introduced during or after the outbreak of COVID-19. Technology based education has a very long time history since the invention of modern technologies. However, scholars such as Phill (2012) state that online education was started since 1994 though Keengwe and Kidd (2010) argue that online learning started earlier in the 1960s. Despite these arguments, the scholars agree that online education has shown a dramatic change. Keengwe and Kidd (2010) state that online learning's way of delivery and its demand is increasing from time to time. Gulati (2008) strengthens this idea saying that learning by using technologies such as the internet has become a global incident and even recommends for developing countries such as countries in Africa to use technology based learning due to the countries' scarce resources.

Negash, K. H. (2020). Somaliland's University Students' Online Learning Experiences during the COVID-19 Lock-down. In R. Thripp (Eds.), *Proceedings of ICSES 2020-- International Conference on Studies in Education and Social Sciences* (pp. 14-20), Istanbul, TURKEY. ISTES Organization.

Online learning is a global phenomena happening now. Especially at this time during the COVID-19 pandemic, many higher institutions around the globe are changing their instructional teaching in to online mode of delivery. According to Smart and Cappel (2006), universities are expanding their instructional delivery in to mechanisms such online learning. The authors further sought that e-learning which includes online learning is growing fast now a day. A recent report by UNESCO (2020) shows that 87% of the global student population which accounts for about 1.2 billion students are affected by the COVID-19 pandemic. Hence, governments are allowing education institutions to deliver their instructions in the distance education program which includes online learning.

Somaliland, a self-declared autonomous state since 1991, is one of the countries which have been affected by the pandemic disease. Starting from March 19, 2020 until June 30, 2020, the country declared state of emergency due to the disease and was under a lock-down. Education institutions including higher education institutions were closed in the country for the specified date. Hence, the institutions changed their instructional mode of delivery in to online. One of which is X University, a university located in Borama town. The university is a medical university which offers seven different programs in undergraduate degrees. But the university did not have previous experience of online learning. So, X University delivered courses online to its students of three batches for the first time when the lock down was declared by the government of Somaliland. Therefore, the current researcher was interested to assess the students' online learning experiences during the COVID-19 lock down who attended in X University.

Methodology

The research used descriptive survey research method. The research was conducted in the academic year of 2020 at a university in Somaliland. The university had a total number of 500 from seven departments namely Medicine and Surgery, Dentistry, Optometry, Human Nutrition, Public Health, Nursing and Midwifery, and Medical Laboratory. Yamane's sample size formula was used to determine the sample size. It was calculated as follows.

$$n=\frac{N}{1+N(e)2}$$

$$n=\frac{500}{1+500(0.05)2}$$

$$n=\frac{500}{2.25}$$

$$n=222$$

Hence, a sample size of 222, whose age ranges from 18-53, was first taken for this study. However, 200 (103 males and 97 females) participated in this research. The 22 students didn't return the questionnaire. A questionnaire which consisted of 4 demographic information and 11 main questions was used to collect data from the students. Simple random sampling was used to select the student respondents where every student had an equal chance of being selected. Data were collected right after the online learning was completed and the COVID-19 lock down was lifted. Then, data were tallied manually, converted in to frequency distribution and percentage, and presented in tables.

Findings

Table 1: Access to electricity

Item	Alternatives	Response	
		#	%
1	Yes	168	84.0
	No	32	16.0

One can understand that electricity is mandatory for online learning since the internet depends on it. Somaliland uses petroleum for its electricity generation. All electricity companies in the country are private owned. In Somaliland, the price of 1kw is $0.63 and accessible to every resident. But the price is costly compared to the price in neighboring countries such as in Ethiopia $0.349/1kw, Kenya $0.217/1kw and Djibouti $0.00/1kw. The

surveyed students were asked if they had access to electricity or not during the online learning. Out of the 200 students surveyed, majority (84%) of the students had access to electricity. However, some 16% did not have access to electricity. Kronke (2020) in a policy paper reports that there is a difference in countries' access to electricity which in turn implies that students have varying access to electricity. Despite this variation, most of Somaliland's university students have access to electricity.

Table 2: Access to internet

Item	Alternatives	Response	
		#	%
2	Yes	180	90.0
	No	20	10.0

A research fining by Gillwald and Stork (2008) shows that the cost of access to internet in Africa is expensive compared to other continents. In Somaliland there are two telecommunication companies operating which are Telesom and Somtel with the same price for kw. The cost of internet varies based on how you use it. For example for daily bundle for $0.25 is 200MB, $0.50 is 500MB, $1 is 1GB, etc but if it is in a weekly basis the price is $0.12 for 50MB, $0.25 for 400MB, $0.50 for 1GB, $1 for 2GB, etc. But despite the expensive price, the country's internet speed is fast and much better in speed compared to neighboring countries like Ethiopia.
Though access to internet in Africa is limited (Kenny, 2000 and Christoph, Enrico and Alison, 2013), according to Nyerere, Gravenir, and Mse (2012), some countries are taking the initiative to deliver their education to students through online. Somaliland has the same experience. The students who participated in the present research were asked if they had access to internet during their online learning. Most of the respondents which account for 90% reported that they had access to internet while the remaining 10% didn't have access to internet. This shows that Somaliland's university students have access to internet and that facilitated the online learning during the lock-down. This coincides with a similar study result conducted in secondary school students by Sossa, Rivilla and Gonzalez (2015) in Bolivia which shows that the students have access to internet.

Table 3: Source of internet

Item	Alternatives	Response	
		#	%
3	Internet café	7	3.5
	Home WI-FI	120	60.0
	University WI-FI	11	5.5
	Mobile data	74	37.0
	Friends internet	4	2.0
	Other source	0	0.0

Although a research result by Christoph et al (2013) shows that mobile internet/data is taking the lead in African countries. In this research majority (60%) of the surveyed students said that their source of internet is home WI-FI followed by those who said 37% mobile data, 5.5% university WI-FI , 3.5% internet café and only 2% used friends' internet source. However, Christoph et al's (2013) research and the present research found out that most people including university students use mobile data as source of internet for its less demand for ICT skills.

Table 4: The purpose of using internet

Item	Alternatives	Response	
		#	%
4	For entertainment	25	12.5
	For educational purpose	135	67.5
	For communication	64	32.0

Since the introduction of internet, many people around the globe have virtually connected. Students in general and university students in particular are now accessing information easily compared to the pre-internet era and their use for academic purpose is increasing (Muniandy, 2010 and Dogruer, Eyyam and Menevis, 2011). But the students' use of internet varies. While some studies such as by White and Selwyn (2012) report that there is an increase in the use of internet for non-educational purpose, many studies including the current study show that internet is widely used by students for educational purpose. For example, studies Bashir, Mahmood and Shafique (2008), Dogruer et al (2011) and Sossa et al (2015) show that majority of students use the internet for

educational purposes. The result of this study is indifferent. Table 4 above also shows that out of the 200 surveyed university students in Somaliland, most of them (67.5%) used internet for educational purpose followed by 32% that used internet for communication purpose. However, some (12.5%) students used internet for entertainment. Therefore, it is possible to conclude that most university students use internet for educational purpose.

Table 5: Type of electronic device used for online learning

Item	Alternatives	Response	
		#	%
5	Cell phone	138	69.0
	Laptop	64	32.0
	Desktop	5	2.5
	Tablet	17	8.5
	I don't use any electronic device	6	3.0
	Other	0	0.0

A research finding by Gillwald and Stork (2008) also show that 15% or fewer households in Africa have computers and less than 5% of them have connectivity, for example, in South Africa. Again, a research finding by Christoph et al (2013) reports that in Africa, access to computers and smart phones is limited. In the present research, the surveyed students were asked what type of electronic device they were using during the COVID-19 lockdown. Out of the surveyed student respondents, majority (69%) of the students used their cell phones followed by 32% who used laptops. Some few other students; 8.5% used tablet, 2.5% used desktop, 3% didn't use any electronic device. A study conducted in Tanzania by Mtega, Bernard, Msungu, and Sanare (2012) shows a similar finding that most students and even teachers use cell phones for teaching and learning. This signifies that all African countries cannot have similarities in their citizens' cell phone property ownership as the current research result shows that majority of Somaliland's university students have smart phones and they use their phones for learning.

Table 6: ICT skills

Item	Alternatives	Response	
		#	%
6	Yes	135	67.5
	No	50	25.0
7	Self study	116	58
	I have taken an ICT course	47	23.5
	Paid tutoring	8	4.0
	My friends taught me how to use ICT	31	15.5

The survey also shows that 67.5% of the students have ICT skills. However, 25% of the surveyed students do not have ICT skills. The 67.5% students who said that they have ICT skills were asked how they were able to the skills. As a result, majority (58%) replied that they are self taught, 23.5% have taken an ICT course, 15.5% were trained by their friends, and 4% of them paid for ICT tutors. This means that though most of the students have ICT skills but they didn't develop the skills from formal trainings or after taking ICT courses. They are self taught. Similarly, a study conducted in Lahore, Pakistan shows the same result. Bashir et al (2008) found out that most university students have self taught ICT skills.

Table 7: Online learning platform

Item	Alternatives	Response	
		#	%
8	Emails	13	6.5
	Internet browser	6	3.0
	WhatsApp	19	9.5
	Zoom Meeting	178	89.0
	YouTube	16	8.0

During the COVID-19 lock-down, face to face teaching and learning was not possible for Somaliland's university students. Consequently, universities in the country shifted their teaching mode to online. But the challenge was in selecting which of the many platforms. X University advised its staff and students to use Zoom Meeting. However, few staff members and students preferred to use other platforms. As can be seen from Table 7 above, most (89%) of the students used Zoom Meeting for their online learning. But few other students used other plat forms which include 9.5% WhatsApp, 8% YouTube, 6.5% emails and 3% internet browser. As reported in Table 5, most students use their cell phones for their online learning. In line with this Khaddage and Knezek (2011) state that mobile applications are becoming "an increasingly popular method of content delivery". Of the many online learning platforms, Bosch (2009) and Wallace (2013) indicate that applications such as Facebook can be used. However, in the present research Zoom Meeting is used by most of the students. This could be due to the university's (X University) recommendation.

Table 8: Challenges during online learning

Item	**Alternatives**	**Response**	
		#	**%**
9	Lack of access to electricity	12	6.0
	Lack of access to internet	81	40.5
	Lack of access to electronic devices	15	7.5
	Lack of knowledge on how to use ICT	38	19.0
	Students' low class attendance	38	19.0
	Lack of educational materials such as books	40	20.0

With regards to the online learning challenges, 40.5% of the students said that access to internet was their main challenge. However some (20%) of the students reported that lack of educational materials such as books was a challenge. Similarly, 19% of the respondents said that lack of knowledge on how to use ICT and students low class attendance were their challenges. The rest 7.5% and 6% respectively said that lack of access to electronic devices and lack of electricity were the main challenges to their online learning. This signifies that though all of the mentioned alternatives are challenges to online learning, access to internet was higher rated than the other challenges. Fortunate enough a study by Dharma, Asmarani, and Dewi (2017) argue that Zoom is even better than Skype due to its written and oral communication access and lecture notes can be shown on screen.

Table 9: Overall online learning experience rating

Item	**Alternatives**	**Response**	
		#	**%**
10	Very good	37	18.5
	Good	68	34.0
	Satisfactory	21	10.5
	Fair	26	13.0
	Bad	45	22.5
	Worst	19	9.5

Finally, the students were requested to rate their overall online learning experience. Consequently, 34% rated their online learning experience as "Good", 22.5% "Bad", 18.5% "Very Good", 13% "Fair", 10% "Satisfactory", and 9.5% "Worst". So, when we see the percentage of students who said that their online learning experience was very good, good and satisfactory, it accounts for 63% of the total respondents. Hence, one can conclude that the students' online learning experience rating is more than satisfactory which in turn shows that online learning is a good means especially in situations like the COVID-19 pandemic situation happening now.

Conclusion

This research assessed Somaliland's university students' online learning experience during the COVID-19 lock-down. The main findings of the research show that most university students have access to electricity and internet facilities. The primary source of internet for the students during the lock-down was home Wi-Fi due to its relative cheap price compared to other sources. The research finding also shows that most of the students use internet for educational purposes. In addition, the findings reveal that university students use their cell phones

for their online learning, have ICT skills required for their learning, and majority of them have self taught ICT skills. As the research findings show, the students used Zoom Meeting for online learning. During the online learning, insignificant challenges such as lack of access to internet, lack of educational materials, lack of knowledge on how to use ICT and students' low class attendance were sought. In general, the students' online learning experience was above satisfactory.

References

[1] Bashir, S., Mahmood, K. & Shafique, F. (2008). Internet Use among University Students: A Survey in University of the Punjab, Lahore. **Pakistan Journal of Information Management and Libraries,** North America, 9, jun. 2016. Retrieved from http:// journals.pu.edu.pk/journals/index.php/pjiml/article/view/811/446 accesses on 07 Sep. 2020.

[2] Bosch, T.E. (2009). Using online social networking for teaching and learning: Facebook use at the University of Cape Town, Communicatio, 35:2, 185-200, DOI: 10.1080/02500160903250648

[3] Cassanelli, L., & Abdikadir, F. S. (2008). Somalia: Education in transition. Bildhaan, 7(1), 91-125.

[4] Christoph, S. Enrico, C. & Alison, G. (2013). Internet going mobile: internet access and use in 11 African countries. The journal of policy, regulation and strategy for telecommunications, 15(5), 34-51, DOI: https://doi.org/10.1108/info-05-2013-0026

[5] Daguer, N., Eyyam, R. & Menevis, I. (2011). The use of internet for educational purposes. Procedia-Social and Behavioral Sciences, 28, 606-611.

[6] Dharma, H.R.C., Asmarani, D. & Dewi, U.P. (2017). Basic Japanese Grammar and Conversation e-learning through Skype and Zoom Online Application, Procedia Computer Science 116, 267–273. Retrieved from https://doi.org/10.1016/j.procs.2017.10.055 accessed on September 7, 2020.

[7] Elloumi, F. (2004). Value Chain Analysis: A Strategic Approach to Online Learning. In Anderson, T. & Elloumi, F. (Ed.). Theory and Practice of Online Learning. Accessed on 18 August, 2020. Retrieved from cde.athabascau.ca/online_book.

[8] Gillwald, A. & Stork,C . 2008. Towards Evidence-based ICT Policy and Regulation: ICT access and usage in Africa. Volume One Policy Paper Two.

[9] Gulati, S. (2008). Technology-Enhanced Learning in Developing Nations: A review. *The International Review of Research in Open and Distributed Learning*, *9*(1). https://doi.org/10.19173/irrodl.v9i1.477

[10] Keengwe, J. & Kidd, T.T. (2010). Towards Best Practices in Online Learning and Teaching in Higher Education. MERLOT Journal of Online Learning and Teaching, Vol. 6, No. 2, June 2010.

[11] Kenny, C. J. (2000) Expanding Internet access to the rural poor in Africa, Information Technology for Development, 9:1, 25-31, DOI: 10.1080/02681102.2000.9525318

[12] Khaddage, F. & Knezek, G. (2011). Device Independent Mobile Applications for Teaching and Learning: Challenges, Barriers and Limitations. In S. Barton, J. Hedberg & K. Suzuki (Eds.), *Proceedings of Global Learn Asia Pacific 2011--Global Conference on Learning and Technology* (pp. 1-7). Melbourne, Australia: Association for the Advancement of Computing in Education (AACE). Retrieved from https://www.learntechlib.org/primary/p/37143/ accessed on September 7, 2020.

[13] Kronke, M. (2020). Africa's digital divide and the promise of e-learning. Afrobarometer Policy Paper N0.66.

[14] Ministry of National Planning and Development, Republic of Somaliland. 2017. The National Development Plan II, 2017-2021: MNPD, Hargeisa,.

[15] Muniandy, B. 2010. Academic Use of Internet among Undergraduate Students: A Preliminary Case Study in a Malaysian University. International Journal of Cyber Society and Education, 3(2), 171-178.

[16] Moore, J.L., Dickson-Deane, C., & Galyen, K. (2011). E-Learning, online learning, and distance learning environments: Are they the same? The Internet and Higher Education, 14(2), 129-135. Retrieved on 25 Audust, 2020. Accesses from https://doi.org/10.1016/j.iheduc.2010.10.001.

[17] Mtega, Y.P., Bernard, R., Msungu, A.C., and Sanare, R. (2012). Using Mobile Phones for Teaching and Learning Purposes in Higher Learning Institutions: the Case of Sokoine University of Agriculture in Tanzania. Proceedings and report of the 5th UbuntuNet Alliance annual conference, 118-129. Retrieved from https://repository.ubuntunet.net/bitstream/handle/10.20374/130/ mtegaw.pdf? accessed on September 7, 2020.

[18] Nyerere, J. A., Gravenir, F. Q., & Mse, G. S. (2012). Delivery of open, distance, and e-learning in Kenya. International Review of Research in Open and Distributed Learning, 13(3), 185.

[19] Hill, P. (2012). Online Educational Delivery Models: A Descriptive View. *EDUCAUSE Review*, *47*(6), 84-86. Retrieved on August 24, 2020 from https://www.learntechlib.org/p/113883/.
[20] Smart, K.L., & Cappel, J.J. (2006). Students' Perceptions of Online Learning: A Comparative Study. Journal of Information Technology Education, 5, 201-219.
[21] Sossa, S. F., Rivilla, A. M., & González, M. L. C. (2015). Digital inclusion in education in Tarija, Plurinational State of Bolivia. Retrieved on July 15, 2020 from https://repositorio.cepal.org/bitstream/handle/11362/38833/RVI115Farfan_en.pdf
[22] The Heritage Institute for Policy Studies. (2013). The State of Higher Education in Somalia: Privatization, rapid growth, and the need for regulation. Mogadishu, Somalia.
[23] UNESCO. (2020). UNESCO rallies international organizations, civil society and private sector partners in a broad coalition to ensure #LearningNeverStops.
[24] Urdan, T. A., & Weggen, C. C. (2000). Corporate e-learning: Exploring a new frontier. WR Hambrecht Co.
[25] US Department of Education. (2009). Evaluation of Evidence-Based Practices in Online Learning: A Meta-Analysis and Review of Online Learning Studies. Center for Technology in Learning.
[26] Wallace, A. (2013). "Social learning platforms and the flipped classroom," *Second International Conference on E-Learning and E-Technologies in Education (ICEEE)*, Lodz, 198-200, doi: 10.1109/ICeLeTE.2013.6644373.
[27] White, P. & Selwyn, N. (2012). Learning online? Educational Internet use and participation in adult learning, 2002 to 2010, Educational Review, 64:4, 451-469, DOI: 10.1080/00131911.2011.626123

International Conference on Studies in Education and Social Sciences
www.icses.net December 3-6, 2020 Istanbul, TURKEY www.istes.org

Preclinical and Clinical Medical Education: Educational Practices in the Era of COVID-19 Pandemic

Amr Maani
University of London, UK, am1051@london.ac.uk, ORCID: https://orcid.org/0000-0002-3687-8654

Abstract: The coronavirus pandemic has caused a great disruption in medical education. Medical education has shifted from the conventional learning approach to a more virtual or online approach. With the rapid spread of the pandemic across the world, different sectors of society had to undergo total restructuring. The pandemic has proven beyond a reasonable doubt that there is a global shortage of physicians. The pandemic has presented practical and logistical challenges considering that students without symptoms may unknowingly spread the virus, even contact it in the course of learning. SARS-CoV-2 triggered a revolution in the use of technology, and we have been forced to adapt to it in all aspects of life. The application of technology has received great attention in medical practice. It is important to note that E-learning and telecommunication technologies have been greatly utilized in the course of responding to this pandemic. Moreover, clinical research and experience show that learning via the above-mentioned approach might have a great benefit to medical education. Its effectiveness may be compared to traditional learning methods, but the learning outcome is still not clear. However, it has provided an unparalleled opportunity to improve and protect the health of patients, healthcare professionals, and society at large. This paper highlights the educational practices in the era of the COVID-19 pandemic, especially with regards to the use of E-learning and telecommunication technologies in pre-clinical and clinical medical education.

Keywords: e-learning, medical education, telemedicine, COVID-19, telehealth

Introduction

The onset of the COVID-19 pandemic has facilitated the transitioning of the pre-clerkship curriculum to e-formats (web-based). The curriculum includes basic sciences, health system sciences, and behavioral sciences. The meeting point for virtual teams is, of course, online. Some clinical skill sessions are done virtually, or in some cases, deferred. Student assessment and examinations are conducted virtually. E-learning has several benefits. One of these is the update and/or distribution of content materials. Virtual classes also tend to be coordinated. But then, there is a need for evaluation of the outcomes. Transitioning from a work setting or medical school setting to a continuous stay at home may result in isolation, consistent emailing, and an inability to establish a clear boundary between home and work. The impact that this will have on students will be great, no doubt. Also, the staff and the entire faculty will be impacted. Nevertheless, is the medical student deeply involved in a clinical setting? What role does he/she play therein? It is important to know that a medical student is more or less an intern. He or she is learning under supervision. The medical student develops their professional skills by giving greater priority to their patients while working towards altruism. The question is – "to what extent should a medical student be involved during a health crisis such that he or she is acknowledged to prioritize the patient?" COVID-19 as we know is very contagious. There is a high possibility of student contracting or spreading the virus. Other factors that may act as a barrier, preventing the student from working their best include lack of personal protective equipment, cancellation of surgical procedures and medical appointments, and insufficient testing facilities.

In the heat of the pandemic, medical students were barred from attending to COVID-19 patients, mostly due to insufficient personal protective equipment. With the increasing number of cases, medical students issued a directive calling for the exclusion of medical students from the clerkship settings. By March 2020, clinical rotations were paused based on a directive by the American Medical Association (Rose, 2020). What then would be the fate of students usually assigned to inpatient or outpatient rotations? Many options include holding

Maani, A. (2020). Preclinical and Clinical Medical Education: Educational Practices in the Era of COVID-19 Pandemic. In R. Thripp & I. Sahin (Eds.), *Proceedings of ICSES 2020-- International Conference on Studies in Education and Social Sciences* (pp. 20-24), Istanbul, TURKEY. ISTES Organization.

virtual clinical classes to allow for late entry into the clerkship setting, creation of virtual cases, deferment of clinical rotations, as well as establishment of a telehealth setting for medical students. The virus signaled the onset of an unexpected revolution, with technology being the core of our adaptation in most cases. This technological revolution has been pronounced in most areas of life, but more in medical practice. Telehealth has been greatly utilized by healthcare providers in the course of responding to the pandemic (Maani, 2020). With the increasing usage of telehealth, it is necessary to scrutinize its effects on clinicians and their patients to ensure proper implementation and usage. While we understand that telehealth cannot put an end to the pandemic, it provides ample opportunities to protect the health of society at large.

Preclinical Medical Education

A major drawback to an online preclinical setting is that preclinical medical education involves more than just lecturing of basic sciences. It is a fact that basic sciences account for at least 80 percent of preclinical medical education. Most additional academic activities including dissection of cadavers, small group discussions and meetings, cultural skills, introduction to clinical medicine, and tutoring on ethics may also be discussed in the virtual classroom. For instance, an online class titled “The American Health Care System” was conducted by the University of Pennsylvania. The class featured 5 discussion sessions, 45 presentations, as well as a course on “Ethics of Study with Human Subjects” 25 presentations at 10 minutes each. These presentations covered the basics of clinical research ethics. They are components of an 18-course online master’s program. As a plus, other material, like communication skills and cultural competence contribute to integrating clinical content into the preclinical years. It is unlikely that any of these would be tailored for students without experience in clinical interactions. E-learning services will also create opportunities for open forums as in synchronous faculty question-and-answer forums, plus student discussion groups.

With highly efficient technology, virtual reality will be a possibility, while digitization of anatomical dissections is already available and will be more improved with virtual reality. Also, e-learning, when organized properly with discussion groups or collaborative projects, may enable deep and shared learning between students. For instance, at the start of a 20-month online Master of Health Care Innovation Program, a 4-day-in-person meeting fosters unity among the students and promotes mutual support and daily contact as they engage in a discussion within the same online space (University of Pennsylvania Master of Health Care Innovation, 2020). As a plus, there are many slides and lectures on histology, so including these topics in a clinical training session will be easy. Sole online study has also attracted some criticism. A large percentage of students starting an online course usually fail to see it through to the end (Parr, 2020). This is partly because online courses offer low finishing incentives and are not mandatory for graduation. Online program retention, course credits, and other stakes usually make up 70% (WGU, 2020). There was an 87% retention rate at Arizona State University during the first year, with a 68% graduation rate for 6 years (UOIA, 2020).

Online education requires dedication and motivation. Dedication and motivation are functions of success in online education. Success in complex courses such as anatomy, molecular biology, and others is a function of hard work, dedication, ambition, persistence, and dedication to learning. Preclinical students may not necessarily live in the same town as their tutor, or within the same vicinity as the medical school, but may practically have access to high-speed Internet anywhere they are in the world. As such, medical schools will not have a monopoly on clinical training. A student may complete their preclinical years through various means.

Clinical Medical Education

The lockdown measures designed to curb the spread of COVID-19 brought to limelight the possible benefits of telehealth. Healthcare providers were encouraged to offer virtual health services whenever possible. This was believed to help quarantine patients while creating easy access to governments and essential medical care agencies, like the CDC (Hollander and Carr, 2020). The response from health systems was rapid and dramatic. From the experience at VCU Hospital System, the changes to telehealth are highlighted. As part of the frantic efforts to flatten the curve, VCU Hospital System spearheaded a quick migration of all elective outpatient and emergency care visits. This covered chronic care visits, follow-up visits, and other visits that improved the physical and mental health of the patients. In a space of 2 weeks, there was a huge skyrocketing of VCUHS from 25 to 30 and then to1700 daily, implying a rise of 5000%. This huge rise was maintained with VCUHS

telehealth appointments averaging 1500 daily and comprising up to 62% of total outpatient visits between 29th March 2020 to 2nd May 2020 (Tuckson et al., 2017; Gilbert et al., 2020). There have also been other reports about increasing video consultations. The adoption of telehealth has reduced physical contact and exposure to patients and has also minimized the exposure of frontline medical staff. Also, telehealth has promoted the quarantining and isolation of COVID-19 positive providers with mild symptoms as well as providers in high-risk populations while still contributing to care. We cannot overestimate this advantage. First, the COVID-19 curve is flattened, and the flexibility in the healthcare system is retained.

It is a fact that telehealth has immense value in COVID-19 control. It also has clinical benefits beyond COVID-19. However, these advantages have their respective barriers and challenges that require a resolution, considering that we are stepping into a future where medical health becomes indispensable in healthcare delivery (Tuckson et al., 2017). With the advancement in telehealth and extensive research on the evaluation of the impact of telehealth on patient satisfaction, it is important to give priority to patient outcome and cost-effectiveness. Very few studies have been done recently. Studies have shown a high level of overall patient satisfaction with telehealth services. However, a greater percentage of the population prefers physical or one-on-one consultation (Gilbert et al., 2020; Shaw et al., 2020; Timm et al., 2020). Studies have proven the effectiveness of telehealth in the treatment of chronic conditions like childhood asthma as it is in inpatient care (McLean et al., 2011; van den Wijingaart et al., 2017). With the improvement in technical constraints, telehealth technology still makes immense contributions to stressful and suboptimal interactions between patients and providers. Studies evaluating the efficacy of telehealth, as well as its risks and drawbacks, must be conducted even as we step into the future. In just a few months, the telehealth industry has undergone a total revolution and has changed medical education, with medical educators and tutors just venturing into the vast space of telehealth. Medical students can now monitor patients remotely while the pandemic persists and also engage in treatment, albeit actively (Rasmussen et al., 2020; Nadell, 2020).

The teaching and learning experience gotten from telehealth has increased the value of a discerning medical background together with an observation-based evaluation based on one's perspective. Medical students and residents got a whole new opportunity to learn the basics of telehealth and also give useful feedbacks (Klasen et al., 2020). Also, medical students and interns now get to learn about interesting topics from global experts, as many medical societies have switched to webinars and online lectures (alongside CME credits). These lectures and webinars are often free. King's College John Price Pediatric Respiratory Conference led the pace in online study. Also, there are global leaders in telehealth technologies, leaders who can collaborate in the treatment of critically ill COVID-19 patients as they work together to understand the viral physiology of SARS-CoV-2 and the best treatment for COVID-19.

The Future of Medical Education

Modern innovations in teaching have created new opportunities in medical education and healthcare. Also, technological evolution has created new telemedicine applications. Medical education adopts a progressive model – a model that fosters longitudinal care, collaboration, and communication. When medical schools adopt this model, educational funds budgeted to train medical students will be wholly utilized while remote communities will have access to cheap health care. The first thing to consider is the effect that virtual communication has on the doctor-patient relationship. Does telehealth in any way undermine the importance of human touch and contact? What of the aspect of confidentiality? Does the digitalization of healthcare affect confidentiality? What about the medico-legal challenges? Are they in any way affected? For telemedicine to succeed, there is a need for the development of favorable legal frameworks and eHealth policies. Challenges faced by telehealth in medical education include set-up and maintenance of facilities in remote locations, international, and low-income locations.

Challenges are also encountered when training health providers for local communities. These new health care providers should be wholly able to use this new technology to transmit patient information to teaching centers. Receiving funds for the purchase of new equipment may be hard. Connection speeds, internet security, and dependability are also known as barriers. After installing the systems, the healthcare providers must enlighten their patients about telehealth – what it is, how it works, and how the medical student can assist. There is a need to take adequate measures to prevent unnecessary patient transfers from students to residents; the patient's needs should be made a top priority. There has been a change in medical education. This has been overemphasized.

Doctors working even when sick are now a thing of the past. With the present situation, a clinician who presents for work even when sick, and those who are asymptomatic may facilitate the transmission of the virus to both patient and otherwise healthy people. This explains why it is important to redefine altruism and professionalism and consider the consequences of future actions, even with the best intentions. Of course, this may be difficult considering the lack of research and the low availability of personal protective equipment. More attention will be given to academic issues like setting standard exams even when testing centers are closed, the ability to meet residency requirements, and the timeline for residency applications for third-year students.

However, medical students have been engaged in this crisis in several ways. Medical students globally develop materials for patient education, volunteer in-call centers, assist with grocery shopping, self-isolate, safe travel, and surveillance. Understanding that COVID-19 may lead to a shortfall in healthcare staff will encourage students to join the workforce. The situation could undergo a rapid change, thus necessitating that medical schools become versatile and sensitive. Some schools have gone as far as considering early graduation, with fourth-year students being trained to engage as volunteers or residents. But then, there might be a need for increased flexibility from licensing processes and the institution concerning the award of degrees.

Conclusion

While we move into an uncertain future, a thorough assessment must be done on creative and collaborative learning and teaching models. COVID-19 has improved the viability of online learning. This has been of immense benefit to medical students in their clerkship and pre-clerkship phases, considering the use of technology such as telehealth has created a safe environment for patients and medical students. Digital learning for students will be the new normal, while the curricula of medical schools and residency programs will change to incorporate comprehensive telehealth training as a primary component of medical education. The telehealth learning experience is already reshaping the image of medical education as we scale through the COVID-19 pandemic.

Acknowledgment

This research received no external funding.

Conflict of Interest

The author declares no conflict of interest.

References

Rose S. (2020). Medical Student Education in the Time of COVID-19. *JAMA*, *323*(21), 2131–2132. https://doi.org/10.1001/jama.2020.5227.

University of Pennsylvania Master of Health Care Innovation website. Published (2020). Accessed August 27, 2020. Retrieved from https://improvinghealthcare.mehp.upenn.edu/master-of-health-care-innovation

Parr, C., (2013) New study of low MOOC completion rates. Times Higher Education. Retrieved from https://www.insidehighered.com/news/2013/05/10/new-studylow-mooc-completion-rates

Retention and graduation rates at WGU. (2020). Retrieved from https://www.wgu.edu/about/students-graduates/retention-graduation-rates.html

Facts at a Glance: fall (2019)—metropolitan campuses. Retrieved from https://uoia.asu/edu/sites/default/files/facts_at_a_glance_fall_2019.pdf

Hollander, J.E., Carr, B.G,. (2020). Virtually perfect? Telemedicine for Covid-19. *N Engl J Med*. 382(18):1679–81.

Maani, A. (2020). The Use of telehealth and telemedicine in medical education: Effects of COVID-19. In I. Sahin & M. Shelley (Eds.), Educational practices during the COVID-19 viral outbreak: International perspectives (pp. 63–80). ISTES Organization.

Tuckson, R.V., Edmunds, M., Hodgkins, M.L,. 2017. Telehealth. *N Engl J Med*. 377 (16):1585–92.

Gilbert, A.W., Billany, J.C.T., Adam, R., Martin, L., Tobin, R., Bagdai, S., (2020). Rapid implementation of virtual clinics due to COVID-19: report and early evaluation of a quality improvement initiative. *BMJ Open Qual*. 9(2).

Shaw, S.E., Seuren, L.M., Wherton, J., Cameron, D., A'Court, C., Vijayaraghavan, S., (2020). Video consultations between patients and clinicians in diabetes, cancer, and heart failure services: linguistic ethnographic study of video-mediated interaction. J *Med Internet Res*. 22(5):e18378.

Timm, B., O'Connor, E., Liodakis, P., Jayarajan, J., Bolton, D.. (2020). We still need the clinic; patient perceptions on doctor-in-training delivered telehealth versus in person consultation. *ANZ J Surg*. 90(5):658–9.

McLean, S., Chandler, D., Nurmatov, U., Liu, J., Pagliari, C., Car, J., (2011). Telehealthcare for asthma: a Cochrane review. *CMAJ* ;183(11):E733–42.

Van den Wijngaart, L.S., Roukema, J., Boehmer, A.L.M., Brouwer, M.L., Hugen, C.A.C., Niers, L.E.M., (2017). A virtual asthma clinic for children: fewer routine outpatient visits, same asthma control. *Eur Respir J*. 50(4).

Rasmussen, S., Sperling, P., Poulsen, M. S., Emmersen, J., & Andersen, S. (2020). Medical students for health-care staff shortages during the COVID-19 pandemic. *Lancet (London, England)*, *395*(10234), e79–e80. https://doi.org/10.1016/S0140-6736(20)30923-5.

Nadell Faber, O,. (2020). Medical students can help combat COVID-19. Don't send them home. Retrieved from: https://www.statnews.com/2020/03/14/medical-students-can-help-combat-covid-19/

Klasen, J., Vithyapathy, A., Zante, B., Burm, S,. (2020). The storm has arrived – the impact of SARS-CoV-2 on medical students. *Perspect Med Educ*. https://doi.org/10.1007/s40037-020-00592-2.

Public Relations Through Online Marketing and PR Campaigns during COVID-19

Alban Tartari
University of Tirana, Albania, Alban.Tartari@unitir.edu.al

Alketa Haklaj
University of Tirana, Albania, Alketahaklaj1@gmail.com

Abstract: This study aims to provide an overview and analysis of the public communications that the main telecommunications corporation of Albania, "ALBtelecom" had on the online channels during the quarantine of the COVID-19 pandemic in Albania. In a time of isolation, companies and businesses were forced to turn their online communication around, thus changing totally the way they communicate. As the telecommunication operators are the main providers of internet worldwide, giving the communication and interaction opportunities for individuals, families, institutions and corporations, it is very important to study the public communications of these oparators during this time of global crisis. By analyzing the quarterly communication of this corporation, in this paper, it is also intended to show how public relations, in the time of development of new technologies and the use of social media, are interacting closely with online marketing campaigns. The main focus in this paper is ALBtelecom, but the field of study is spread over three levels, which include communication during isolation, comparison with the communication of this corporation before the pandemic outbreak, as well as comparison with the main competitors in the market in the field of telecommunications. ALBtelecom, as a telecommunications corporation has undertaken several social responsibility campaigns and commercial campaigns, which offer internet service plus, compared to the months before the pandemic. Public communications were intensified through social media accounts as the only way to reach audiences in a time when even traditional media publications and broadcasts were affected.

Keywords: Pandemic, Communication, Public relations, Marketing, Online marketing, Online public relations, Social media, Telecommunications

Introduction

The world is going through a time of very rapid change. In addition to climate change, increasing pollution, economic change, the change of the century is the move from the mechanical world to a digital world. According to Kotler, technology is the key word, because through the Internet, computers, mobile phones and social media, the behavior of producers and consumers is being completely changed. (Kotler, 2010).

According to a study by Hootsuite, "The Global State of Digital in 2020", about 4.5 billion people use the Internet and 3.8 billion people are on social networks. (Hootsuite, 2020) Compared to 2017, when there were about 2.7 billion, there is a high increase in users and as a result, this causes changes in the way corporations communicate with the public / consumers. According to this report, the digital world is evolving at this pace, also due to the coronavirus pandemic, the pandemic which has reshaped people's daily lives. Although isolations have been removed in many places, but people are maintaining the same digital behaviors they had during isolation.

COVID-19 is already one of the biggest crises of this century and the well-functioning of organizations has been and remains a challenge in itself. ALBtelecom was chosen as the main focus of this paper, also for the fact that telecommunication companies have been more necessary than ever in providing vital services to many individuals, organizations and companies, who started working through technology.

Tartari, A. & Haklaj, A. (2020). Public Relations Through Online Marketing and PR Campaigns during COVID-19. In R. Thripp & I. Sahin (Eds.), *Proceedings of ICSES 2020-- International Conference on Studies in Education and Social Sciences* (pp. 25-30), Istanbul, TURKEY. ISTES Organization.

An Overview of Online Communication during Lockdown

According to Connolly, every corporation has it essential to be active on social media. (Connolly, 2020) During the pandemic, consumers have moved dramatically towards online channels. For this reason, companies have been forced to relocate their work and communication online. ALBtelecom, being a telecommunication corporation, according to the observations made, has focused its communication on a combination of public relations and marketing. Public relations consists of campaigns taken by ALBtelecom during the time of observation, while the combination lies in the fact that all public relations communication is done in the service of marketing, through advertising for offers or the services that this corporation offers.

After the monitoring, for a period of 3 months (March-April-May 2020) a presence was noticed mostly on the social networks Instagram and Facebook, to which every announcement, campaign, service, offer was communicated.

Marketing and Public Relation Campaigns

A certain campaign strategy cannot be done without a refresh and re-presentation of that organization's slogans. These slogans should be unique and appealing. ALBtelecom, as a main campaign, has used the hashtag *#KuKaSiShtepia* (English translation: #NoPlaceLikeHome). This slogan is used as a PR slogan. The reason is because with this expression ALBtelecom does not give the idea of selling and advertising for its products or services, but uses and plays with the word "home", which at the time of isolation was the main word. Based on the interview with the creative department of ALBtelecom, "No Place Like Home", is explained in the following ways:

- Albanian tradition. The house for Albanians is one of the main characteristics of the people and this is seen families, movies, history, in which the house is the main concept, as it is the place where family members gather.
- Correction of Albanian behavior. Modernization, fast life, technology, have made Albanians forget this family concept. Thus, "No Place Like Home", brings to attention once again the importance it has.
- Tendency. ALBtelecom by saying "No Place Like Home", accepts it as a new routine, telling its clients that this is the new way of living.
- This phrase is directly related to the coronavirus pandemic, but does not have a direct link as it is not mentioned, it is implied. Disease (COVID-19) is left in the subconscious to build positivity and see the good side of staying home.

Having said that, ALBtelecom helps in social distancing and it also helps the state institutions. This is because with this call, this corporation, encourages staying at home. As a result, ALBtelecom with this slogan, has used public relations in the function of sales.

Public relations campaigns are planned, well-organized acts as a collaboration of a group of experts to well present an organization, individual, product, service or offer to the public through various traditional or social media channels, within a certain time frame. (Tartari, 2017) ALBtelecom during the period of isolation from the COVID-19 pandemic has undertaken several campaigns which consist of 3 divisions of campaigns:

1) Commercial campaign
2) Public relations campaigns to strengthen the brand
3) Social responsibility campaigns

Commercial campaigns are campaigns that are product / service focused and promote sales through direct advertising. These campaigns did not stop during the pandemic, but were adapted to the situation created by the pandemic.

The aim of image campaigns that ALBtelecom has undertaken during the months under analysis, from March to May, is to improve the corporate image. These image campaigns focus on words such as: family, home, children, love, society, etc. By not focusing on the products or services that this telecommunication agency offers, an attempt has been made to sensitize the society, using the main slogan created especially for this time and situation, "No place like home" and photo descriptions which are social messages.

Even in difficult times, more than half of consumers still expect companies to defend social causes. (Cone, 2008) In a time of pandemics, where citizens have been forced to stay indoors, to respect the measures taken by the government to spread the COVID-19 pandemic, ALBtelecom has used this period to improve the image not only through the main campaign with the slogan "No place like home", but also to do social responsibility. During the monitored period, there were 4 Social responsibility campaigns with different target groups.

Social Responsibility Campaigns

Maintaining good relations with the "internal public" (relevant employee) is as important as maintaining good relations with investors and the general public. (Marconi, 2010) In a situation where all citizens are obliged to stay inside, telecommunication companies are among those businesses which must continue to work in the field. ALBtelecom, being a company that offers not only mobile but also fixed internet, is obliged to take its employees to the field despite the risk of spreading the virus. The corporation to show that it supports its employees and is in difficult times to its subscribers, has undertaken the campaign: "Take care of yourself and others by staying at home, because we take care of your communication. Our employees are out every day to provide quality service in every home, in every corner of Albania." This campagins shows solidarity with all employees. It supports and appreciates that despite the fact that the risk is big to go to work, in a time of pandemic, they still do the job. Secondly, ALBtelecom shows that it is ready for its clients, especially in difficult times. At a time when the Internet is one of the most important products / services, as citizens are at home, work and school are done from home, through this campaign, it is shown that the client and the provision of quality service is the most important thing for this corporation.

Doctors during the pandemic period have been referred to as the "first line of war". At a time when most of the world was locked up at home, among the few professions that had to face this new virus were doctors. In traditional and online media, campaigns and awards have been made to support their work. ALBtelecom has undertaken the campaign which offers to the doctors free communication during the month of April. The purpose of this campaign is solidarity for the work they have done during the pandemic and through this campaign, ALBtelecom focuses on doctors, the most discussed during this pandemic, as well as the corporate service itself: free communication.

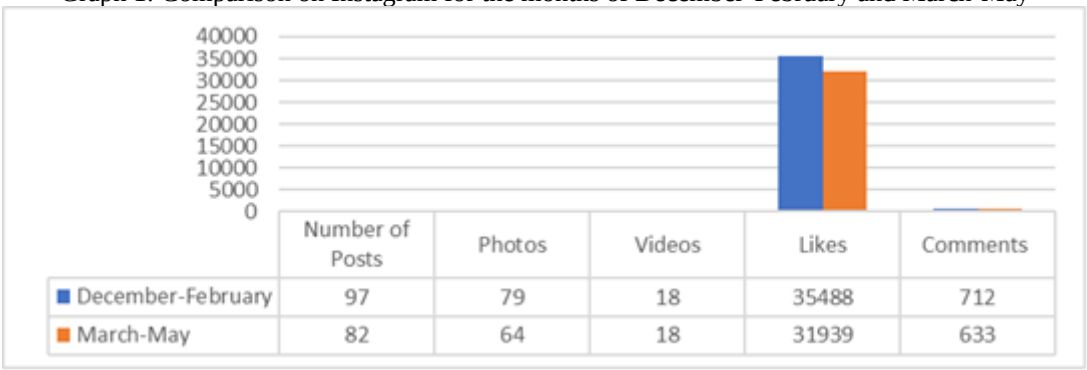
Kotler says education is the most preferred facility for philanthropy and social responsibility and about 75% of companies are using it. ALBtelecom during the month of April and during the month of May undertook the campaign "Learn for free with School Me". This campaign consists of free access to the RTSH Shkolla Channel and the "School Me" platform, with didactic programs for children. ALBtelecom through this platform offered to the subscribers the lessons in audio-visual form with images and films, questionnaires, exercises, laboratories, additional knowledge, notes and forums for each learning topic. Through this campaign, ALBtelecom not only aims to provide students with easier and free access to studies, but also aims to improve their image. This social responsibility shows that ALBtelecom is close to its subscribers even in difficult times.

Another social responsibility campaign undertaken by ALBtelecom is a campaign which consists of donating food packages to some families in Kamza, Tirana (capital city of Albania). This campaign was made in cooperation with "Klan" television and aims to donate 100 aid packages to 100 families in Kamza.

Comparison with the Period before the Pandemic and Comparison with its Competitors

To see how ALBtelecom's communication has changed in times of health crisis such as the COVID-19 pandemic, it's been made a comparison with the communication that ALBtelecom had three months before the pandemic. Specifically, the months taken in the study to make this comparison are December, January and February. A detailed monitoring has been carried out, which draws the following conclusions:

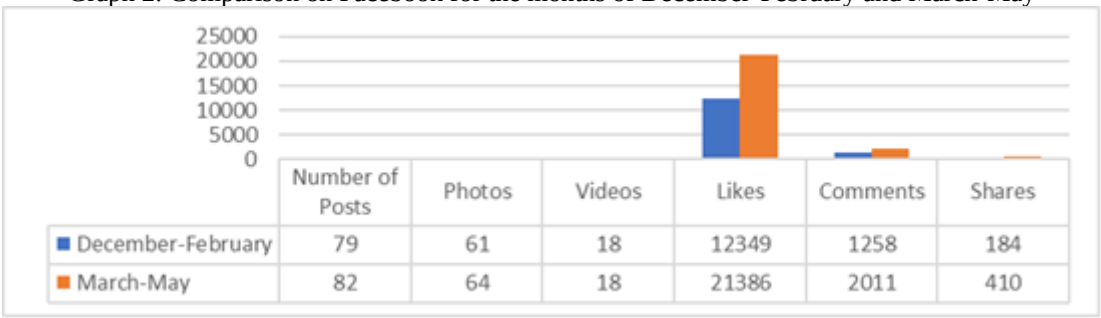
Graph 1: Comparison on Instagram for the months of December-February and March-May



	Number of Posts	Photos	Videos	Likes	Comments
December-February	97	79	18	35488	712
March-May	82	64	18	31939	633

As can be seen from the graphs, on the social network Instagram, there was a lower number of posts during the pandemic months compared to 3 months ago and necessarily the interactivity is lower. On Facebook, there is higher interactivity during the pandemic months.

Graph 2: Comparison on Facebook for the months of December-February and March-May



	Number of Posts	Photos	Videos	Likes	Comments	Shares
December-February	79	61	18	12349	1258	184
March-May	82	64	18	21386	2011	410

This paper, in addition to comparing ALBtelecom itself, before the pandemic, also consists in comparing this corporation with other competitors in the market, such as: Vodafone, Digicom and Abissnet. The level of comparison is at the level of comparison of the campaigns undertaken over a period of three months. This choice was made given that Vodafone is the largest mobile phone operator in Albania, while the alternative operators with the highest number of clients are Abcom and Abissnet. (AKEP, 2019) The campaigns undertaken by these corporations are diverse. Vodafone and ALBtelecom have more public relations campaigns and are more social-focused than the other two corporations, Abissnet and Digicom. Vodafone, after the observation made, has a more structured communication, as it has a line of public relations campaigns, as well as its posts on social networks are combined with corporate elements and professional graphics. The public relations campaigns of this company consist of:

- Free educational platform;
- Campaign for #RedForWhite doctors;
- Social distance + technology;
- #TogetherAtHome campaign;
- Vodafone Home Concert (concert every Saturday via Juth application);
- Red for Kids (Vodafone donates 5,000 technology devices to children who do not have access to online learning).

Digicom has a total of 4 public relations campaigns, which consist of:

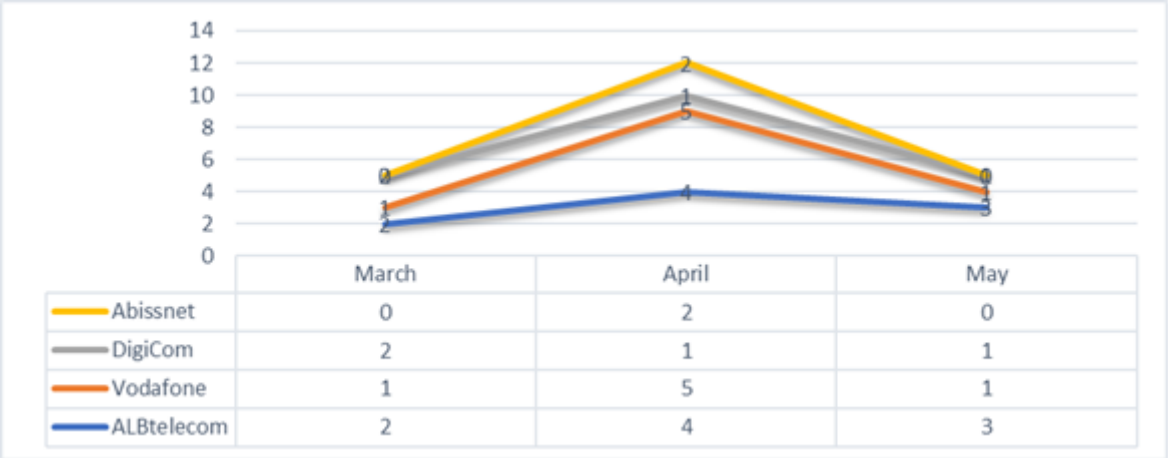
- Image enhancement campaign (stay home);
- RTSH free school on IPTV;
- Tips to overcome the situation created by the COVID-19 pandemic with illustrative videos and illustrative photos;

Abissnet has a non-structured communication. According to the observation made and the analysis of social networks, this corporation has not given much importance to PR, but mostly to sales products. This corporation has had the most marketing campaigns and marketing language, which promote offers. Compared to

ALBtelecom, which has created a slogan specifically for this situation, "No place like home", Vodafone, Digicom and Abissnet do not have one.

To make this comparison, the graph below graphs have been constructed which show the duration of the social responsibility campaigns undertaken by these corporations. From the monitoring, Vodafone, in addition to being the largest mobile phone operator, is also the most followed operator on the social networks Facebook and Instagram, from the 4 corporations surveyed.

Graph 3: Timing of social responsibility campaigns, ALBtelecom, Vodafone, Digicom and Abissnet



	March	April	May
Abissnet	0	2	0
DigiCom	2	1	1
Vodafone	1	5	1
ALBtelecom	2	4	3

Client Perception on Online Marketing Campaigns

After empirical observations, interviews with ALBtelecom employees and interviews with professionals in the field, a survey was conducted. This survey was conducted to have a clearer idea of how these campaigns were undertaken and how the communication made was perceived by the clients of this agency. To conduct this survey, 400 people participated. To understand how ALBtelecom's online communication has affected its clients, two questions have been created which consist of obtaining data on the questions: "Are you informed about the opportunities that ALBtelecom provides for purchasing services online?" and "If so, what was the main source of your information?" These questions have been made to understand where the information about the services provided by this corporation is obtained and how informed its clients are. Out of 400 respondents, 237 people are somewhat informed, while 56 are not informed at all even though they are ALBtelecom subscribers. To find out what was the main source for obtaining information about the services provided by ALBtelecom during the COVID-19 pandemic, for those who responded who were informed about the online services of ALBtelecom, the question was asked which consisted of obtaining data how many people have received the information through social networks. From the data, 40% of respondents were informed by TV ads, while only 34% by ALBtelecom social networks. One of the main goals of building this questionnaire was to understand how many clients follow ALBtelecom on social networks and which is the social network they follow the most. Questions to get this information are made separately for each platform: Facebook, Instagram, Twitter, LinkedIn and YouTube. The most followed social network by the clients in this survey, is Facebook, followed by Instagram. YouTube, LinkedIn and Twitter are less followed. What is noticeable and should be emphasized from these results is that the vast majority do not follow the social networks of this company at all.

Conclusions

At a time when people are locked up at home and work / school are all transferred online, not only ALBtelecom, but all companies that offer internet and mobile services, as communication providers that bring the Internet and know this service very well, have to be messaging experts. The pandemic strengthened the meaning of the internet, not only strengthened it but also gave it a primary importance. It could be argued that perhaps without the Internet, even the lockdown measures taken worldwide because of the pandemic could have been different. The measures taken had as key words: ***home, work from home*** and ***online learning***. The Internet changed the

logic of work, the logic of learning as well as communication as a whole. All these changes would not be possible without the internet. Thus, ALBtelecom and every other telecommunication company should use this pandemic on a profitable side.

After the monitoring, it was noticed that in a period of 3 months, ALBtelecom has paid more attention to Facebook and Instagram. The content on these social networks is the same, both in terms of quantity and content, and this is a problem. These social networks have different target groups, as well as different media. Instagram values photography, while Facebook values text. Given these, the communication strategy for these social networks may not be the same. From the findings of this paper, as well as from the statistical data obtained from this company, comes to another conclusion, which addresses how traffic, interactivity in social networks and websites, except in March, has not increased compared to previous months. So, even though people in an abnormal situation, where the need for information and internet services was very great, have not had an increase in interest towards these online communications of ALBtelecom. March is on the rise and this is explained by the fact that March was the first month of the pandemic and people this month were more curious to get services or information about something unknown. Panic and lack of information to know how the situation is going, of course leads to increased traffic. But, seeing that this increase in traffic has decreased in April and May, shows that the increase has not come as a result of good communication of ALBtelecom, but only as a result of the situation found. The survey conducted for this study, in two different target groups, although in a situation where online shopping is promoted, 58% of respondents have purchased packages and products from ALBtelecom from physical points of sale.

ALBtelecom, as a telecommunications corporation has undertaken several social responsibility campaigns and commercial campaigns, which offer internet service plus, compared to the months before the pandemic and this way has intensified social responsibility campaigns, giving them priority.

References

AKEP. (2019). *Electronic Communications Market Statistical Indicators.* Tirana.
Cone. (2008). *The 2008 Cone Cause Evolution Study* . Cone.
Connolly, B. (2020). *Digital Trust. Social Media Strategies to Increase Trust and Engage Customers.* London: Bloomsbury Publishing.
Henslow, P. (1999). *Public Relations, A Practical Guide.* London: Kogan Page.
Hootsuite. (2020). *Hootsuite*. Retrieved from https://hootsuite.com/resources/digital-2020
Jacskson, D. (2019). Retrieved from SproutSociale.: https://sproutsocial.com/insights/instagram-vs-facebook/
Kotler, P. (2010). *Marketing 3.0.* New Jersey: John Wiley & Sons.
Kotler, P. (2017). *Marketing 4.0 "Moving from traditional to digital.* New Jersey: John Wiley & Sons, Inc., Hoboken.
Lee, P. K. (2005). *Corporate Social Responsibility: Doing the Most Good for your.* New Jersey: John Wiley & Sons, Inc., Hoboken.
Marconi, J. (2010). *Public Relations.* Tirana: UET Press.
Ramrayka, L. (2006). *The Rise and Rise of the Ethical consumer.* Guardian.
Scott, D. M. (2017). *The New Rules of Marketing & PR.* New Jersey: John Wiley & Sons, Inc., Hoboken.
Tartari, A. (2017). *Public Relations.* Tirana: Toena.
Young, D. P. (2009). *Online Public Relations.* London: Kogan Page.

Analysis of the Number of Colonoscopies during the Quarantine Period for COVID-19

Volodymyr Sulyma
SI "Dnipropetrovsk Medical Academy of Ministry Health of Ukraine", Ukraine, Volodyasulyma2@gmal.com

Pavlo Kovalchuk
City Clinical Hospital #6, Dnipro, Ukraine, Kovalchuk2@gmail.com

Leonid Kuk
City Clinical Hospital #6, Dnipro, Ukraine, Kuk2@gmail.com

Abstract: In a large number of patients with a profile of gastroenterology, proctology, oncology and general surgery, colonoscopy is required to clarify the diagnosis. When performing a colonoscopy, it is possible to identify tumors, polyps, diverticula, ulcerative and cicatricle defects in the colon, as well as to perform tissue biopsy for subsequent histological examination and verification of the diagnosis. The use of colonoscopy in patients of this category in the endoscopy department of City Clinical Hospital #6 averages 10 people per day, however, during the quarantine period for Covid-19, the number of studies has significantly decreased. The analysis of the number of colonoscopies performed in the endoscopy department of the city clinical hospital #6 in the first half of 2020 showed that before the announcement of quarantine for Covid-19 (until March 13, 2020), 8-12 examinations were performed in one working day. The number of colonoscopies performed on patients from March 13, 2020 to June 01, 2020 averaged 3-5 examinations per day, in most cases, only for urgent indications. Since June 01, 2020, due to the softening of quarantine requirements for Covid-19, the number of colonoscopies performed slightly increased to 6-7 per day, including planned studies. The analysis of the number of colonoscopies performed in the endoscopy department of city clinical hospital #6 in the first half of 2020 indicates a significant decrease in the number of studies, which is associated with the quarantine requirements for Covid-19.

Keywords: Analysis, Colonoscopy, Quarantine, Covid-19

Introduction

In a large number of patients with a profile of gastroenterology, proctology, oncology and general surgery, colonoscopy is required to clarify the diagnosis.

When performing a colonoscopy, it is possible to identify tumors, polyps, diverticula, ulcerative and cicatricle defects in the colon, as well as to perform tissue biopsy for subsequent histological examination and verification of the diagnosis. (Baxter NN, et all., 2009; Brenner H, et all., 2010; Rex DK, et all., 2002, 2017).

Colonoscopy refers to diagnostic and instrumental methods that allow you to determine the condition of the colon. The indication for manipulation is a patient's appeal to a doctor with complaints of manifestations of intestinal pathology.
Examination of the intestine using a colonoscopy allows you to visually assess the condition of the intestine and identify pathologies at different stages of their development. (Bereznyts'ky Ya.S., et all., 2016).

Colonoscopy is performed by a endoscopic doctor or proctologist and does not require hospitalization of the patient.

Sulyma, V., Kovalchuk, P., & Kuk, L. (2020). Analysis of the Number of Colonoscopies during the Quarantine Period for COVID-19. In R. Thripp (Eds.), *Proceedings of ICSEST 2020-- International Conference on Studies in Engineering, Science, and Technology* (pp. 31-34), Istanbul, TURKEY. ISTES Organization.

Colonoscopy is prescribed without fail in a number of cases. For each individual patient, the decision on the procedure is made individually, depending on his general condition, the presence of contraindications and the risk of side effects.

Most often, the procedure is prescribed for neoplasms in the intestine. Other indications for colonoscopy are as follows:

- prolonged constipation or diarrhea;
- the presence of blood in the stool or its discharge from the anus;
- discharge of mucus from the anus;
- detection of occult blood in feces during analyzes;
- abdominal pain with fever and weakness (unless pathologies with similar symptoms have been identified);
- detection on X-rays of changes in the intestine that resemble tumor formations;
- condition after removal of polyps or cancerous growths (for diagnostic purposes, once a year). ("Colorectal Cancer Prevention and Early Detection". American Cancer Society. February 5, 2015).

The procedure can also be performed as an emergency aid in order to remove a foreign body or stop bleeding. The need for such an intervention will be determined by the doctor.

There are absolute contraindications for conducting a colonoscopy, in which the procedure is not performed, since it can cause serious consequences for the patient. Examination is prohibited when the patient has:

- peritonitis;
- myocardial infarction in the acute phase;
- acute ischemia of the heart;
- a state of shock, in which there is a severe decrease in pressure;
- perforation of the intestinal wall;
- severe colitis;
- period of pregnancy;
- pulmonary insufficiency;
- heart failure.

The presence of these contraindications is the strictest prohibition on colonoscopy, even with vital indications for it.

Method

The use of colonoscopy in patients of this category in the endoscopy department of City Clinical Hospital #6 averages 10 people per day, however, during the quarantine period for Covid-19, the number of studies has significantly decreased.

The procedure is unpleasant, but not painful, so no pain relief is required. With severe pain in the anal area, local anesthesia is used. General anesthesia is indicated only in the case of the procedure for children under 10 years of age and persons with severe disorders in the state of the small intestine. (Singh H, et all., 2010; Atkin WS, et all., 2012).

Also indications for the use of anesthesia are:

- the patient's categorical refusal to be examined due to a previous negative experience in which severe pain was experienced;
- medical colonoscopy to remove polyps in the intestine, carried out as planned;
- massive adhesive process in the abdominal cavity;
- pathologically elongated sigmoid colon;
- excessive psycho-emotional excitability of the patient.

The decision on the need for general anesthesia or local anesthesia is made by the doctor, taking into account the interests of the patient.

The examination is carried out according to a strictly defined plan. This allows you to get maximum information about the state of the intestine during colonoscopy. During the manipulation, the patient undresses completely below the waist and lies on a special table, taking a position on the left side, pulling the legs bent at the knees to the stomach.

The specialist inserts the colonoscopy into the rectum through the anus. This process is slow. Not infrequently, during the introduction of the device, the patient is asked to turn on his back, and then again on his left side. (Sivak Jr., Michael V., 2004).

To expand the intestines, air is forced into it, which causes discomfort and a feeling of fullness with gases, as well as an acute urge to defecate. At the end of the examination, air is sucked out using an endoscope, which causes some pain, since the intestinal tissue is strongly stretched. Acute pain can only appear if the bowel is displaced.

Results and Discussion

The analysis of the number of colonoscopies performed in the endoscopy department of the city clinical hospital #6 in the first half of 2020 showed that before the announcement of quarantine for Covid-19 (until March 13, 2020), 8-12 examinations were performed in one working day.

The number of colonoscopies performed on patients from March 13, 2020 to June 01, 2020 averaged 3-5 examinations per day, in most cases, only for urgent indications.

Since June 01, 2020, due to the softening of quarantine requirements for Covid-19, the number of colonoscopies performed slightly increased to 6-7 per day, including planned studies.

A complication that can occur during the procedure can only be intestinal perforation, which is a serious and dangerous condition. It can develop due to the incompetence of the doctor who performed the procedure; or thinning of the intestinal walls, which, due to pathological changes, cannot withstand air pressure. An ambulance is urgently required if anal bleeding develops within 2 days after the examination, the temperature rises and abdominal pain appears. (Gmperiale, 2008; Sulyma V., 2018).

Side effects after colonoscopy are not dangerous for the patient and cause only temporary discomfort. The main ones are:

- bloating due to trapped air in the intestines;
- pain in the anus - if the doctor roughly inserts the device;
- diarrhea - provoked by the intake of laxatives in the preparatory period before the examination;
- mild abdominal pain after removal of the polyp.

In rare cases, the patient has a fever on the first day after colonoscopy. If no damage is found in the tissues, then the temperature will return to normal on its own after a few hours.

The analysis of the number of colonoscopies performed in the endoscopy department of city clinical hospital #6 in the first half of 2020 indicates a significant decrease in the number of studies, which is associated with the quarantine requirements for Covid-19.

Conclusion

Colonoscopy is a highly informative bowel examination method that does not cause pain for the patient, but is uncomfortable and unpleasant.

Therefore, during the quarantine period of Covid-19, there is a decrease in the number of this type of research, since colonoscopy is most often performed as a routine and plan procedure.

Recommendations

It is recommended that, in the future, when the Covid-19 quarantine is strengthened, colonoscopy should be performed only in urgent cases, postponing scheduled studies for the period of quarantine softening.

Acknowledgements or Notes

We express our gratitude to the staff of the endoscopy department of the City Clinical Hospital #6 for their work during the Covid-19 quarantine period.

References

Bereznyts'ky Ya.S., Zakharash M.P., Mishalov V.G., Molchanov R.M., Sulyma V.P. et all. Surgery: textbook for students of higher medical educational institutions. Vinnytsia: Nova Knyga, 2016.-712p.

Baxter NN, Goldwasser MA, Paszat LF, Saskin R, Urbach DR, Rabeneck L (January 2009). Ann. Intern. Med. 150 (1):1–8. doi:10.7326/0003-4819-150-1-200901060-00306. PMID 19075198.18, 2012.

Singh H, Nugent Z, Mahmud SM, Demers AA, Bernstein CN (March 2010). "Surgical resection of hepatic Metastases from colorectal cancer: a systematic review of published studies". Am J Gastroenterol. 105 (3): 663–673. doi:10.1038/ajg.2009.650. PMID 19904239.

Brenner H, Hoffmeister M, Arndt V, Stegmaier C, Alterhofen L, Haug U (January 2010). "Protection from right- and eft-sided colorectal neoplasms after colonoscopy: population-based study". J Natl Cancer Inst. 102 (2): 89– 95. doi:10.1093/jnci/djp436. PMID 20042716.

Atkin WS, Edwards R, Kralj-Hans I, et al. (May 2010). "Once-only flexible sigmoidoscopy screening in prevention of colorectal cancer: a multicentre randomised controlled trial". Lancet. 375 (9726): 1624–33. doi:10.1016/S0140-6736(10)60551-X. PMID 20430429.as PDF Archived March 24, 2012.

Sivak Jr., Michael V. (December 2004). "Polypectomy: Looking Back". Gastrointestinal Endoscopy. 60 (6): 977– 982. doi:10.1016/S0016-5107(04)02380-6. PMID 15605015.

"Colorectal Cancer Prevention and Early Detection" (PDF). American Cancer Society. February 5, 2015. pp. 16–24. Retrieved 2015-12-25.

Rex DK, Bond JH, Winawer S, Levin TR, Burt RW, Johnson DA, et al. (June 2002). "Quality in the technical performance of colonoscopy and the continuous quality improvement process for colonoscopy: recommendations of the U.S. Multi-Society Task Force on Colorectal Cancer". The American Journal of Gastroenterology. 97 (6): 1296–1308. PMID 12094842.

Rex DK, Boland CR, Dominitz JA, Giardiello FM, Johnson DA, Kaltenbach T, et al. (2017). "Colorectal Cancer Screening: Recommendations for Physicians and Patients from the U.S. Multi-Society Task Force on Colorectal Cancer". American Journal of Gastroenterology. Ovid Technologies (Wolters Kluwer Health). 112 (7): 1016–1030. doi:10.1038/ajg.2017.174. ISSN 0002-9270. PMID 28555630.

Gmperiale, Thomas F.; Glowinski, Elizabeth A.; Lin-Cooper, Ching; Larkin, Gregory N.; Rogge, James D.; Ransohoff, David F. (2008). "Five-Year Risk of Colorectal Neoplasia after Negative Screening Colonoscopy". N Engl J Med. 359 (12): 1218–1224. doi:10.1056/NEJMoa0803597. PMID 18799558.

No Need to Repeat Colonoscopy Until 5 Years After First Screening Newswise, Retrieved on September 17, 2008.

Sulyma V. Treatment of patients with Ulcerative Colitis and Arthritis. Abstracts Falk Symposium 210, April 2018, Lisbon, Portugal. – P. 151.

istes Organization

www.istes.org

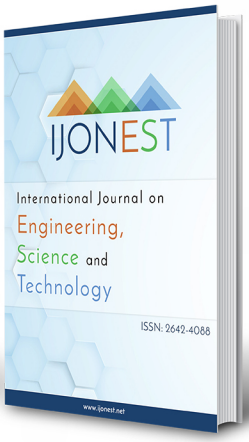
www.ijemst.net

www.ijres.net

www.ijtes.net

www.ijte.net

www.ijonse.net



www.ijonest.net

www.ijonses.net

International Conference on Studies in Education and Social Sciences

DECEMBER 3-6, 2020 ISTANBUL/TURKEY

istesoffice istesoffice istesoffice

www.icses.net

9 781952 092145