Araştırma Makalesi

The Evaluation of The Feedback of Dentist Faculty Students on Online and Face-To-Face Education During The Covid-19 Pandemic Period

Covid-19 Pandemi Döneminde Diş Hekimliği Fakültesi Öğrencilerinin Uzaktan ve Yüz Yüze Eğitime Yönelik Geribildirimlerinin Değerlendirilmesi

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ABSTRACT

Objective: The aim of this survey study is to evaluate the feedback of students in Gazi University Faculty of Dentistry about online education in the 2020-2021 academic year due to the pandemic and the hybrid education in the 2021-2022 academic year.

Material-Method: The sample of the study consists of 508 undergraduate students who continue their dentistry education on a web-based basis during the COVID-19 pandemic period. A survey consisting of 14 questions, consisting of six parts. Chi-square test and Fisher Freeman Halton Exact Chi-square test were used for statistical analysis.

Results: It was determined that 31.5% of the students participated in the survey could not focus on the online theoretical lessons because of less communication than face-to-face lessons. It was determined that the majority (83.78%) of the 2nd and 3rd grade students who received preclinical education preferred face to face education.

Conclusion: In this survey study, the effect of online education and hybrid education were evaluated by students. Face to face education is very effective than other education models.

Keywords: COVID-19; dentistry; education; face to face; online; survey

ÖZET

Amaç: Bu anket çalışmasının amacı … Üniversitesi Diş Hekimliği Fakültesi öğrencilerinin pandemi döneminde 2020-2021 eğitim-öğretim yılında pandemi sebebiyle yapılan uzaktan eğitim ve 2021-2022 eğitim-öğretim yılında hibrit olarak yürütülen eğitim ile ilgili öğrencilerin geribildirimlerinin değerlendirilmesidir.

Materyal-Metod: Çalışmanın örneklemi çalışmaya katılmaya gönüllü, COVID-19 pandemi döneminde diş hekimliği eğitimine web tabanlı olarak uzaktan devam eden 508 lisans öğrencisinden oluşmaktadır. Öğrencilere altı bölümden oluşmak üzere 14 adet sorudan oluşan bir anket uygulanmıştır. İstatistiksel analiz için Ki-Kare testi ve Fisher Freeman Halton Exact Ki-kare testi kullanılmıştır.

Bulgular: Ankete katılan öğrencilerin %31.5'inin dersi anlatan öğretim üyesiyle yüz yüze iletişim sağlayamadığı için online yapılan teorik derslere odaklanamadığı belirlenmiştir. Preklinik eğitimi alan 2. ve 3. sınıf öğrencilerinin ise büyük çoğunluğunun (%83.78) bu eğitimin yüz yüze yapılmasını tercih ettiği belirlenmiştir.

Sonuç: Veriler, diş hekimliği öğrencilerinin büyük çoğunluğunun pratik derslerin ve pratik ders ödevlerinin yüz yüze yapılmasını tercih ettiğini göstermektedir.

Anahtar Kelimeler COVID-19; Diş Hekimliği; Eğitim; Yüz yüze; Online; Anket

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INTRODUCTION

COVID-19 has spread worldwide and was declared an epidemic by the World Health Organization on March 11, 2020 and has become an important public health problem all over the world in a short time.[1] Although the clinical findings of the infection vary in the adult age group, the most common symptoms fever, dry cough and shortness of breath, which may be accompanied by sore throat, myalgia, headache and weakness. Advanced age and the presence of other accompanying diseases play a role in the aggravation of the clinical status.[2] Droplet, contact and respiration of aerosols, which are very important in dentistry, have been shown to be responsible for the spread of the disease. Risk of transmission of infection; varies according to the type and duration of exposure, the use of preventive methods and possible individual factors.[3]

In order to reduce the spread of the COVID-19 pandemic, it has been decided to close schools, universities and other educational institutions temporarily in many countries. With the announcement of the first COVID-19 case seen in our country by the Ministry of Health on 11th March 2020, schools and other educational institutions were temporarily closed on 25th March.[4] After closure of universities, the statement made by the Council of Higher Education (CHE) stated that universities can use synchronous or asynchronous online education methods. In line with these decisions of CHE, lessons started to be taught with online education method in some universities on 23 March 2020.[5]

Education in faculty of dentistry; it consists of three parts: theoretical training, preclinical training and clinical internship training. In the pandemic period, online education was started in Gazi University Faculty of Dentistry and lessons were started to be taught online, and later, theoretical and practical trainings were completed by making online exams on the topics discussed. Preclinical training is carried out in the form of online education by recording sample videos and watching them over the perculus system and evaluating the practical assignments given. In clinical internship training, some arrangements were made.

Dental students are at high risk groub for COVID-19 infection as they may be in close contact with symptomatic or asymptomatic patients. It has been emphasized that face-to-face communication with patients, the formation of high amounts of aerosols and droplets during dental examinationor treatment , inhalation of microorganisms in the air and direct or indirect contact with contaminated instruments are important in the spread of COVID-19 infection.[6-8] Due to this high risk during dental treatments; in order to allocate time for disinfection of the clinic, useful practices such as making some changes in the duration of patient appointments, reducing the contamination that will occur due to aerosol procedures by making cabins in the clinic and starting to use the ventilation system in the cabins have begun to be implemented. Dentistry education, where theoretical and especially practical training is so important, is thought to be greatly affected by the pandemic process. When we look at the literature, there are a limited number of studies evaluating the application of online education in dentistry due to the pandemic. However, there is no study in which hybrid education (some of the lessons are conducted face-to-face with some online education) and online education are evaluated together.

The aim of this survey study is to evaluate the feedback of the students in Faculty of Dentistry of Gazi University about online education in the 2020-2021 academic year due to the pandemic during the pandemic period and the hybrid education in the 2021-2022 academic year.

MATERIAL-METHOD

The survey study was initiated with the approval of Gazi University Faculty of Dentistry Clinical Research Ethics Committee (ID: 2022.01/1, Date: 13.01.2022).

When the impact of the COVID-19 pandemic on the education of Gazi University Faculty of Dentistry undergraduate students is predicted to be at least 50%, with a 5% error level and a sampling error of 0.05, in order for the study to have 80% power and on a voluntary basis, at least 50% of the target population assuming that only 335 students can be included in the study, it is envisaged to include at least 335 students. The sample of the study consists of 508 undergraduate students and received online education in the 2020-2021 academic year during the pandemic period.

The survey consists of 6 parts and 14 questions. In the first and second part of the survey, there is information about the gender of the students the grade of the students are studying. In the third and fourth part of the survey, the opinions of the students about the online theoretical lessons, online exam questions and experiences about them. In the fifth and last part of the survey, face-to-face or online preclinical lessons and the evaluation how they make use of their break time after online education. Survey forms were distributed to the students and after the questions in the survey were answered by the students, the surveys were received. In order not to reveal the identities of the students; information such as name, surname, school number was not requested in the questions. The survey questions directed to the students are shown in Table 1.

Statistical Analysis

IBM SPSS Statistics 22 program was used for statistical analysis of the data obtained in the study. While evaluating the study data, Chi-Square test, Fisher Freeman Halton Exact Chi-square test and Continuity (Yates) Correction were used for comparison of qualitative data as well as descriptive statistical methods (frequency). Significance was evaluated at the $p < 0.05$ level.

RESULTS

318 (62.6%) of the students participating in the study were female and 190 (37.4%) were male. As the participation rate, 66 (13%) were 1st grade, 104 (20.5%) 2nd grade, 118 (23.2%) 3rd grade, 84 (16.5%) 4th grade and 136 (26.8%) were determined to be 5th grade students.

There is a statistically significant difference between the grades in terms of "finding the content and du-ration of the theoretical lessons adequate" (p:0.006; $p < 0.05$). The rate of 4th graders choice 'yes' to this statement (70.2%) was found to be significantly higher than 1st grade (43.9%), 2nd grade (51.9%) and 3rd graders (52.5%) ($p < 0.05$).

Between grades "I have difficulty in understanding online lessons" there is a statistically significant difference in response rates ($p < 0.05$). The rate of 4th graders choice yes to this proposition (9.5%) was significantly lower than 1st grade (34.8%), 2nd grade (31.7%) and 3rd grade (20.3%) ($p < 0.05$).

Between grades "I cannot focus on online lessons because I cannot communicate with the teacher by face to face." There is a statistically significant difference in response rates (p:0.000; $p < 0.05$). The rate of choice 'yes' to this statement of the 4th and 5th grades was found to be significantly lower than the other grades ($p < 0.05$). (Table 2)

84.6% of the 2nd graders and 85.6% of the 3rd graders answered the question "Assess the evaluation of the online homework of your preclinical lessons conducted online" as "I prefer to submit my homework face-to-face instead of sharing my homework with the teachers online" gives.

In the question of "would you prefer to have your preclinical lessons by face-to-face or online if you have a choice?", 85.6% of the 2nd graders and 82.2% of the 3rd graders gave the answer "I prefer face-to-face".

There is a statistically significant difference between the lessons in terms of the rate of giving the answer "I am working on the Specialization in Dentistry (EED) exam" as those who are done about their education in the remaining time from the lessons ($p < 0.05$). (Table 6)

Table 1. Survey for Dentistry Students

1.	**What is your gender?**
☐	Female
☐	Male
1.	**What grade are you studying in?**
☐	1st Grade
☐	2nd Grade
☐	3rd Grade
☐	4th Grade
☐	5th Grade
1.	**In the 2020-2021 academic year how would you evaluate the online theoretical lessons? (You can tick more than one option.)**
☐	I find the theoretical lesson content and duration quite adequate.
☐	I find the theoretical lessons so short.
☐	I have a hard time understanding the online lessons.
☐	I cannot focus on online lessons since I cannot communicate with the teacher face-to-face.
2.	**In 2020-2021 academic year, what is the frequency of your participation in online theoretical lessons?**
☐	I don't agree at all.
☐	Occasionally I agree.
☐	I mostly agree.
☐	I attend every lessons.
☐	I watch the lessons.
3.	**In 2020-2021 academic year, if you could not attend the online lessons, what is the reason? (You can tick more than one option.) (If you selected the other option, please explain.)**
☐	I could not attend because I was unwell/sick.
☐	I couldn't attend because I had problems with internet access.
☐	Other (……………………………..)
4.	**In 2020-2021 academic year, how would you evaluate the sharing of 'lesson notes' in online lessons? (You can tick more than one option.)**
☐	I find it sufficient.
☐	Lessons note presentation can be uploaded to the system before the lesson.
☐	The lessons notes can be easily accessed from the mobile phone.
☐	The lessons notes can be sent to us in word format.
5.	**In 2020-2021 academic year, how would you evaluate to ask questions to teacher during online lessons? (You can tick more than one option.)**
☐	I find it sufficient to send a message.
☐	I would like to ask my question aloud to the lessons.
☐	I would like the lesson to be interactive.
6.	**In 2020-2021 academic year, how would you evaluate the possibility of recording the online lessons and having the opportunity to watch and listen to the lessons again? (You can tick more than one option.)**
☐	Thanks to such an opportunity, I am glad that I had the chance to listen to the lessons that I could not attend with an excuse.
☐	I can learn better by listening to parts that I do not fully understand in one go, over and over again.
☐	I am glad that I have the chance to pause the recording and take notes while watching/listening to the lessons again.
7.	**In 2020-2021 academic year, how do you evaluate the duration of online lessons?**
☐	I find it sufficient.
☐	It would be more productive for me if the course durations were extended.
☐	I find the lessons long.
8.	**In 2020-2021 academic year, how would you prefer to prepare the questions asked in the online exams?**
☐	I prefer multiple choice.
☐	I prefer open-ended questions.
☐	I prefer both multiple choice and open-ended questions together.
☐	I prefer to take exams in the form of face-to-face and oral lessons with the teachers.
9.	**In 2020-2021 academic year, how would you rate the online exams? (You can tick more than one option.)**
☐	I have difficulties in accessing online exams.
☐	I prefer to mark exam questions on paper as in traditional exams rather than answering them online.
☐	I find it more convenient to take the exams online.
10.	**Only 2nd and 3rd graders will answer this question.* In the 2020-2021 academic year how do you evaluate the online assignments of your preclinical lessons conducted online?**
☐	I prefer to submit my homework face-to-face rather than sharing my homework with the teachers online.
☐	I find it appropriate to continue preclinical lessons with online assignments.
11.	**Only 2nd and 3rd graders will answer this question.* If you were given an opportunity to choose, would you prefer to have your preclinical lessons face-to-face or online?**
☐	I would prefer face to face education.
☐	I would prefer online.
12.	**How did you spend your break time regarding your education during the period when you took online lessons during the Pandemic? (You can tick more than one option.)**
☐	I don't do anything other than listen to online lessons.
☐	I study intensively in theoretical lessons.
☐	I am trying to improve my practice on extracted teeth by making use of the training videos prepared by my teachers.
☐	I listen and follow webinars (webinars).
☐	I am working on the EED exam.

Table 2. Distribution of the answers given to the questions between the 1st and 9th questions and the 14th question

		n	%
In the 2020-2021 academic year how would you evaluate the online theoretical lessons?	I find the theoretical lesson content and duration quite adequate.	289	56.9l
	I find the theoretical lessons so short.	58	11.4
	I have a hard time understanding the online lessons.	105	20.7
	I cannot focus on online lessons since I cannot communicate with the teacher face-to-face.	160	31.5
In 2020-2021 academic year, what is the frequency of your participation in online theoretical lessons?	I don't agree at all.	16	3.1
	Occasionally I agree.	151	29.7
	I mostly agree.	219	43.1
	I attend every lessons.	64	12.6
	I watch the lessons.	58	11.4
In 2020-2021 academic year, if you could not attend the online lessons, what is the reason?	I could not attend because I was unwell/sick.	145	28.5
	I couldn't attend because I had problems with internet access.	296	58.3
	Other.	146	28.7
In 2020-2021 academic year, how would you evaluate the sharing of 'lesson notes' in online lessons?	I find it sufficient.	171	33.7
	Lessons note presentation can be uploaded to the system before the lesson.	343	67.5
	The lessons notes can be easily accessed from the mobile phone.	91	17.9
	The lessons notes can be sent to us in word format.	86	16.9
In 2020-2021 academic year, how would you evaluate to ask questions to teacher during online lessons?	I find it sufficient to send a message.	359	70.7
	I would like to ask my question aloud to the lessons.	72	14.2
	I would like the lesson to be interactive.	110	21.7
In 2020-2021 academic year, how would you evaluate the possibility of recording the online lessons and having the opportunity to watch and listen to the lessons again?	Thanks to such an opportunity, I am glad that I had the chance to listen to the lessons that I could not attend with an excuse.	401	78.9
	I can learn better by listening to parts that I do not fully understand in one go, over and over again.	290	57.1
	I am glad that I have the chance to pause the recording and take notes while watching/listening to the lessons again.	296	58.3
In 2020-2021 academic year, how do you evaluate the duration of online lessons?	I find it sufficient.	363	71.5
	It would be more productive for me if the course durations were extended.	87	17.1
	I find the lessons long.	58	11.4
In 2020-2021 academic year, how would you prefer to prepare the questions asked in the online exams?	I prefer multiple choice.	448	88.2
	I prefer open-ended questions.	13	2.6
	I prefer both multiple choice and open-ended questions together.	33	6.5
	I prefer to take exams in the form of face-to-face and oral lessons with the teachers.	14	2.8
In 2020-2021 academic year, how would you rate the online exams?	I have difficulties in accessing online exams.	28	5.5
	I prefer to mark exam questions on paper as in traditional exams rather than answering them online.	118	23.2
	I find it more convenient to take the exams online.	352	69.3
How did you spend your break time regarding your education during the period when you took online lessons during the Pandemic?	I don't do anything other than listen to online lessons.	183	36
	I study intensively in theoretical lessons.	186	36.6
	I am trying to improve my practice on extracted teeth by making use of the training videos prepared by my teachers.	72	14.2
	I listen and follow webinars (webinars).	69	13.6
	I am working on the EED exam.	118	23.2

Table 3. The Answers to the 2nd and 3rd Grade Questions (n=222)

2nd and 3rd Grade Answers to the 2nd and 3rd Grade Questions (n=222)		n	%
In the 2020-2021 academic year how do you evaluate the online assignments of your preclinical lessons conducted online?	I prefer to submit my homework face-to-face rather than sharing my homework with the teachers online.	189	85.1
	I find it appropriate to continue preclinical lessons with online assignments.	33	14.9
If you were given an opportunity to choose, would you prefer to have your preclinical lessons face-to-face or online?	I would prefer face to face education.	186	83.8
	I would prefer online.	36	16.2

Table 4. Distribution of evaluations between grades

		1st Grade n (%)	2nd Grade n (%)	3rd Grade n (%)	4th Grade n (%)	5th Grade n (%)	p
In the 2020-2021 academic year how would you evaluate the online theoretical lessons?	I find the theoretical lesson content and duration quite adequate.	29 (43.9%)	54 (51.9%)	62 (52.5%)	59 (70.2%)	85 (62.5%)	0.006*
	I find the theoretical lessons so short.	5 (7.6%)	11 (10.6%)	27 (22.9%)	7 (8.3%)	8 (5.9%)	0.000*
	I have a hard time understanding the online lessons.	23 (34.8%)	33 (31.7%)	24 (20.3%)	8 (9.5%)	17 (12.5%)	0.000*
	I cannot focus on online lessons since I cannot communicate with the teacher face-to-face.	27 (40.9%)	43 (41.3%)	48 (% 40.7)	14 (16.7%)	28 (20.6%)	0.000*
In 2020-2021 academic year, what is the frequency of your participation in online theoretical lessons?	I don't agree at all.	0 (0%)	2 (1.9%)	8 (6.8%)	1 (1.2%)	5 (3.7%)	0.000*
	Occasionally I agree.	24 (36.4%)	21 (20.2%)	34 (28.8%)	11 (13.1%)	61 (44.9%)	
	I mostly agree.	31 (47%)	56 (53.8%)	36 (30.5%)	58 (69%)	38 (27.9%)	
	I attend every lessons.	7 (10.6%)	17 (16.3%)	22 (18.6%)	10 (11.9%)	8 (5.9%)	
	I watch the lessons.	4 (6.1%)	8 (7.7%)	18 (15.3%)	4 (4.8%)	24 (17.6%)	
In 2020-2021 academic year, if you could not attend the online lessons, what is the reason?	I could not attend because I was unwell/sick.	17 (25.8%)	38 (36.5%)	37 (31.4%)	26 (31%)	27 (19.9%)	0.055
	I couldn't attend because I had problems with internet access.	46 (69.7%)	68 (65.4%)	55 (46.6%)	52 (61.9%)	75 (55.1%)	0.010*
	Other.	20 (30.3%)	24 (23.1%)	44 (37.3%)	13 (15.5%)	45 (33.1%)	0.006*
In 2020-2021 academic year, how would you evaluate the sharing of 'lesson notes' in online lessons?	I find it sufficient.	17 (25.8%)	(26.9%)	30 (25.4%)	27 (32.1%)	69 (50.7%)	0.000*
	Lessons note presentation can be uploaded to the system before the lesson.	53 (80.3%)	75 (72.1%)	94 (79.7%)	58 (69%)	63 (46.3%)	0.000*
	The lessons notes can be easily accessed from the mobile phone.	16 (24.2%)	22 (21.2%)	27 (22.9%)	8 (9.5%)	18 (13.2%)	0.032*
	The lessons notes can be sent to us in word format.	11 (16.7%)	17 (16.3%)	35 (29.7%)	11 (13.1%)	12 (8.8%)	0.000*
In 2020-2021 academic year, how would you evaluate to ask questions to teacher during online lessons?	I find it sufficient to send a message.	42 (63.6%)	63 (60.6%)	76 (64.4%)	72 (85.7%)	106 (77.9%)	0.000*
	I would like to ask my question aloud to the lessons.	8 (12.1%)	19 (18.3%)	24 (20.3%)	6 (7.1%)	15 (11%)	0.043*
	I would like the lesson to be interactive.	21 (31.8%)	31 (29.8%)	30 (25.4%)	9 (10.7%)	19 (14%)	0.001*
In 2020-2021 academic year, how would you evaluate the possibility of recording the online lessons and having the opportunity to watch and listen to the lessons again?	Thanks to such an opportunity, I am glad that I had the chance to listen to the lessons that I could not attend with an excuse.	56 (84.8%)	78 (75%)	96 (81.4%)	63 (75%)	108 (79.4%)	0.467
	I can learn better by listening to parts that I do not fully understand in one go, over and over again.	44 (66.7%)	65 (62.5%)	81 (68.6%)	49 (58.3%)	51 (37.5%)	0.000*
	I am glad that I have the chance to pause the recording and take notes while watching/listening to the lessons again.	40 (60.6%)	67 (64.4%)	90 (76.3%)	54 (64.3%)	45 (33.1%)	0.000*
In 2020-2021 academic year, how do you evaluate the duration of online lessons?	I find it sufficient.	44 (66.7%)	64 (61.5%)	80 (67.8%)	64 (76.2%)	111 (81.6%)	0.001*
	It would be more productive for me if the course durations were extended.	10 (15.2%)	22 (21.2%)	30 (25.4%)	9 (10.7%)	16 (11.8%)	
	I find the lessons long.	12 (%18.2)	18 (17.3%)	8 (6.8%)	11 (13.1%)	9 (6.6%)	
In 2020-2021 academic year, how would you prefer to prepare the questions asked in the online exams?	I prefer multiple choice.	60 (90.9%)	89 (85.6%)	110 (% 93.2)	72 (85.7%)	117 (86%)	0.294
	I prefer open-ended questions.	1 (1.5%)	2 (1.9%)	1 (0.8%)	3 (3.6%)	6 (4.4%)	
	I prefer both multiple choice and open-ended questions together.	2 (3%)	8 (7.7%)	7 (5.9%)	8 (9.5%)	8 (5.9%)	
	I prefer to take exams in the form of face-to-face and oral lessons with the teachers.	3 (4.5%)	5 (4.8%)	0 (0%)	1 (1.2%)	5 (3.7%)	
In 2020-2021 academic year, how would you rate the online exams?	I have difficulties in accessing online exams.	4 (6.1%)	13 (12.5%)	4 (3.4%)	1 (1.2%)	6 (4.4%)	0.007*
	I prefer to mark exam questions on paper as in traditional exams rather than answering them online.	17 (25.8%)	24 (23.1%)	30 (25.4%)	19 (22.6%)	28 (20.6%)	0.893
	I find it more convenient to take the exams online.	29 (43.9%)	68 (65.4%)	85 (72%)	64 (76.2%)	106 (77.9%)	0.000*

Table 5. The Answers to the 2nd and 3rd Grade Questions (n=222)

Evaluation of the answers given to the 2nd and 3rd grade questions (n=222)		2nd Grade n (%)	3rd Grade n (%)	p
In the 2020-2021 academic year how do you evaluate the online assignments of your preclinical lessons conducted online?	I prefer to submit my homework face-to-face rather than sharing my homework with the teachers online.	88 (84.6%)	101 (85.6%)	0.988
	I find it appropriate to continue preclinical lessons with online assignments.	16 (15.4%)	17 (14.4%)	
If you were given an opportunity to choose, would you prefer to have your preclinical lessons face-to-face or online?	I would prefer face to face education.	89 (85.6%)	97 (82.2%)	0.618
	I would prefer online.	15 (14.4%)	21 (17..8%)	

Table 6. Evaluation of the grades regarding what is done about education in the remaining time from the lessons

How did you spend your break time regarding your education during the period when you took online lessons during the Pandemic?	1st Grade n (%)	2nd Grade n (%)	3rd Grade n (%)	4th Grade n (%)	5th Grade n (%)	p
I don't do anything but listen to online lessons.	27 (40.9%)	42 (40.4%)	49 (41.5%)	34 (40.5%)	31 (22.8%)	0.007*
I study intensively for theoretical lessons.	25 (37.9%)	54 (51.9%)	48 (40.7%)	20 (23.8%)	39 (28.7%)	0.000*
I am trying to improve my practice on extracted teeth by making use of the training videos prepared by my teachers.	9 (13.6%)	13 (12.5%)	23 (19.5%)	15 (17.9%)	12 (8.8%)	0.129
I listen to and follow webinars (webinars).	4 (6.1%)	11 (10.6%)	23 (19.5%)	12 (14.3%)	19 (14%)	0.110
I am working on the EED exam.	2 (3%)	1 (1%)	9 (7.6%)	31 (36.9%)	75 (55.1%)	0.000*

Chi-square test   *p<0.05

DISCUSSION

Institutions providing dentistry education have decided to conduct their face-to-face training, laboratory practices and clinical training online due to the closure and social online measures caused by the pandemic.[9] Determining some deficiencies and difficulties that occurred during the conversion of a model planned for formal education into online education and receiving direct feedback from students may enable this education method to be developed and improved.[4]

Some of the deficiencies encountered in online lessons; lesson times, difficulties in understanding lessons and problems focusing on lessons. In the questions directed to the students, it is seen that the rate of "not finding the course duration sufficient", the rate of choice "I have difficulty in understanding the online lessons", and the rate of choice "I cannot focus on the online lessons because I cannot communicate with the teacher by face to face" decreases as the grade of education increases. The reason for this decrease may be the fact that although the theoretical and practical knowledge of the 1st year student is less, the higher knowledge of the 4th year student may have an effect on his understanding ability. For this reason, 4th grade students may find themselves more competent in theoretical and practical lessons in online lessons.

It is seen that the rate of preference for the option "I attend every theoretical lesson" among grades is low. The fact that it is possible to watch it from the recording may affect this. Since the lessons can be watched from the records, students can access the same information in different times they prefered, which can be considered as an advantage of online lessons.

The choice of "Can't attend online lessons because there are problems with internet access" was preferred at a high rate. In order to eliminate this problem, arrangements can be made for students' internet access. There are a certain number of students who choose "Not being able to attend online lessons for other reasons". Students, as another reason; he states that he cannot concentrate on online lessons, works part-time, watches the lessons from the records and cannot attend the lessons because his home environment is not suitable. Having the opportunity to watch the lessons from the recording and the opportunity to access the lesson again may reduce the motivation of the students to attend the lessons live on time.

Among the geades the rate of choosing the option "Lesson presentation can be uploaded to the system before online lessons" is high. This can be attributed to the fact that the student reads the notes before participating in the course and obtains preliminary information about the subject, allowing him to ask questions to the teacher when he has a problem.

The rate of "sending a message to the teachers during online lessons is adequite" is high (70.7%) among the grades. During online lessons, when the student asks any question via message, the teacher can see this message directly on the computer, which is an advantage of the online platform. In this way, the teacher can answer the student's question, which makes it easier for the student in this regard. Having their questions answered can increase the student's motivation to listen to the lesson.

The students stated that they were generally satisfied with the fact that they could watch the lessons from the recording. Students may think that the topics are consolidated because they can listen to the lessons over and over again and that it is easier to understand the lessons because they can stop the video recording from time to time and take notes. In online systems; being able to record, having the opportunity to listen again and again after recording and giving the student the opportunity to take notes by stopping the recording are important advantages.

It is seen that the rate of asking the questions asked in online exams to be multiple choice is high in all grades. Placement Exam for transition to secondary education in our country, Transition to Higher Education Exam and Undergraduate Placement Exam for transition to higher education, and Public Personnel Selection Exam for public institutions to meet the personnel needs; It is constantly on the agenda as large-scale exams, which are closely related to almost half of our population. The common feature of these exams is that they consist of multiple choice test questions.[10] Therefore, until university education, students may have chosen this option because they got used to the multiple-choice test technique.

It is seen that there is no problem in general for students in terms of accessing online exams. When the student has a problem in accessing the online exam, he/she has to document the reason for not being able to access the online exam. For this reason, students take their own precautions before taking the online exam and take the exam wherever they can access the internet most easily.

"I find it more convenient to take the exams online." response rates were high. This can be attributed to the ease of access to online exams, as well as the fact that stress factors may be less during online exams.

Dentistry education basically consists of three parts: theoretical lessons, preclinical education and clinical education. Although it was easy to transfer theoretical lessons to online education in the preclinical period of dentistry education, it was not out of question due to the nature of professional skills and laboratory lessons that required one-to-one work with the trainer on model models. Clinical education in dentistry education is complementary to the preclinical education of students. It is the basic condition for gaining the ability to treat patients independently and necessary, and it requires clinical competence, knowledge, experience, critical thinking and problem solving skills.[11]

The majority of students who received preclinical education (83.78%) stated that they preferred face-to-face training. Dentistry; since it is a profession in which practical training is very important and students can apply the training they have received in the next process, a large part of them prefer these trainings to be done face-to-face.

Although online education can be a solution to many problems, it may have some limitations in terms of the way of application and the student. These limitations are; problems occuring in the delivery of some lessons that require practice through the online education system, the lack of face-to-face education in the online education program and therefore the motivation of the students negatively affected, and the students who are unfamiliar with the use of technology encounter difficulties in learning.[12]

The pandemic process; it seems to affect students to a great extent. It has been observed that students have a fear of losing their manual skills, causing anxiety about their long-term plans and anxiety about exams.[13]

The rate of choice the question "How do you spend your time left from lessons," as "I am working on the EED exam" was found to be the highest in the 5th grades. Next come the 4th graders. It can be said that these rates are seen due to the fact that the specialization exam is approaching as the class in which the students are educated increases and this situation provides more motivation to study.

In a study by Al-Taweel et al.[14] it was evaluated how the online education received during the pandemic process was received by dentistry students. According to the results of the study, it was determined that the students showed low-moderate satisfaction and positive attitudes towards online education. As a matter of fact, in the study of Schlenz et al.[15], the majority of dentistry students and lecturers showed a positive attitude about online education. Positive aspects of online learning, such as higher motivation of students, easier engagement and less time effort, can be used to improve future dental curricula. Although the necessary shift from face-to-face teaching to online learning has accelerated the digitization process in dental education, the full transition has shown that students and lecturers find it difficult to prepare for online learning in advance. On the contrary, with limitation of this survey study our results support the face-to-face education in dentistry because of preclinical and clinical internship. In turkey dental srtudents can treat the patients with supervising of their lecturer in forth and fifth grade. We think that our students prefered face-to-face education because of clinical internship.

Ease of access is very important for online education. For example, the fact that online meeting programs are organized as an application provides great convenience in access. Thus, students who do not have a desktop or laptop computer can also attend online classes via tablets or smartphones using a wireless internet connection. The fact that online courses are easy to attend makes a great contribution to the positive evaluation of online courses by students.[16] Through to the online education application provided by the university, dentistry students participating in our study can easily attend online classes via their smart phones, computers or tablets. This ease of access may be effective in students' positive attitude towards online lessons.

Although the necessary transition from "face-to-face" teaching to online learning has accelerated the digitalization process in dental education, the full transition has shown that students and lecturers find it difficult to prepare for online learning in advance.[17,18] Especially in dentistry education, where practical education is important, the negative effects of the transition to online education can be felt more. As a matter of fact, in this study, students stated that they especially preferred practical lessons to be done face-to-face. However, positively evaluated aspects of online learning such as higher motivation of students, easier participation and less time effort can be used to improve future dental education.[15]

On the other hand, it has been observed that students who need less social interaction view online education more positively.[19] Although there are advantages such as easy access and the opportunity to watch replays in online education, it can be a significant disadvantage for some students that it reduces social interaction. In this study, it can be thought that students who prefer face-to-face lessons care about social interaction.

In another study by Badovinac et al.[19], the majority of dentistry students stated that online lessons are as valuable as face-to-face lessons and that theoretical lessons can be conducted online in the future. In addition, students who were satisfied with online education positively evaluated the organization of online lessons and the attitude of lecturer in online education. However, it has been concluded that some adjustments may need to be made in the online education model against some possible problems (technical problems and difficulties in accessing technology). In this survey, although the majority of the students who received practical training stated that they preferred face-to-face education, very few of them preferred to conduct the education online. Indicated that they preferred however, in online systems; having the opportunity to listen to the lessons again and again after recording and giving the student the opportunity to take notes by stopping the recording are important advantages. In future, online lessons and may be digital preclinical lessons can be developed because of these pandemic conditions and the artificial intelligence.

CONCLUSION

In this survey study, the majority of dentistry students preferred face-to-face practical lessons and practical lesson assignments. No matter how much the pandemic process has affected the education system, in dentistry, a profession in which manual dexterity is of great importance. It is clear that especially practical training should be done face-to-face as much as possible. However, online education; it has advantages such as providing the opportunity to watch over and over again by recording the lessons, and facilitating the student's taking notes by stopping the recording. Although online courses have their advantages, there is no only way to deal with extraordinary situations such as pandemics in dentistry education. For this reason, in extraordinary situations such as pandemics, it may be considered to give priority to some regulations and changes, especially in order not to affect practical education.

REFERENCES

1. Karaaslan F, Dikilitaş A, Aydin EÖ. Comparison of covid-19 relevant knowledge and attitudes of clinical and preclinical dental students in Turkey. Balk J Dent Med 2020;24:127-33.

2. Karaca B. Erişkin yaş grubunda covid-19 klinik bulguları. J Biotechnol and Strategic Health Res 2020;4:85-90.

3. Türken M, Köse Ş. Covid-19 bulaş yolları ve önleme. J Tepecik Educ Res Hosp 2020;30:36-42.

4. Keskin M, Derya Ö. Covid-19 sürecinde öğrencilerin web tabanlı uzaktan eğitime yönelik geribildirimlerinin değerlendirilmesi. İzmir Katip Çelebi Üniv Sağlık Bilimleri Fak Derg 2020;5:59-67.

5. Durak G, Çankaya S, İzmirli S. Covid-19 pandemi döneminde Türkiye'deki üniversitelerin uzaktan eğitim sistemlerinin incelenmesi. NEF-EFMED 2020;14:787-809.

6. Peng X Xx, Li Y, Cheng L, Zhou X, Ren B. Transmission routes of 2019-ncov and controls in dental practice. Int J Oral Sci 2020;12:1-6.

7. Chen J. Pathogenicity and transmissibility of 2019-ncov—a quick overview and comparison with other emerging viruses. Microb Infect 2020;22:69-71.

8. Kampf G Td, Pfaender S, Steinmann E. Persistence of coronaviruses on inanimate surfaces and its inactivation with biocidal agents. J Hosp Infect 2020;104:246-51.

9. Can E. Öğrenci görüşlerine göre merkezî sınavların etkilerinin belirlenmesi. Akademik Sosyal Araştırmalar Derg 2017;5:108-22.

10. Değirmenci A. Diş hekimliğinde uzaktan eğitim; covid-19 dönemi, öncesi ve sonrası. Tosun İ, Editör. Diş Hekimliği Eğitiminde Yenilikçi Teknolojiler. 1. Baskı. Ankara. Türkiye Klinikleri. 2021;7:46-54.

11. Alzamo A, Delilbaşı E. Covid-19 pandemisinde diş hekimliği eğitimi. ADO Klinik Bilimler Derg 2022;11:85-9.

12. Ünal N, Şanlıer N, Şengil AZ. Pandemi döneminde üniversite öğrencilerinin çevrimiçi öğrenmeye hazır bulunuşluklarının ve uzaktan eğitime ilişkin deneyimlerinin değerlendirilmesi. İnönü Üniversitesi Sağlık Hizmetleri Meslek Yüksek Okulu Derg 2021;9:89-104.

13. Tuncer-Kara K, Ataş O. Diş hekimliği son sınıf öğrencilerinin covid-19 bilgi, korku, korunma düzeyi ve pandeminin eğitimlerine etkisi. Turkiye Klinikleri J Dental Sci 2021;27:594-9.

14. Al-Taweel FB, Abdulkareem AA, Gul SS, Alshami ML. Evaluation of technology-based learning by dental students during the pandemic outbreak of coronavirus disease 2019. Eur J Dent Educ 2021;25:183-90.

15. Schlenz MA, Schmidt A, Wöstmann B, Krämer N, Schulz-Weidner N. Students' and lecturers' perspective on the implementation of online learning in dental education due to SARS-CoV-2 (COVID-19): A cross-sectional study. BMC medical education 2020;20:1-7

16. Asiry MA. Dental students' perceptions of an online learning. Saudi Dent J 2017;29:167–70.

17. Abedi M, Abedi D. A letter to the editor: the impact of COVID-19 on intercalating and non-clinical medical students in the UK. Med Educ Online 2020;25:1771245.

18. Ebner M, Schön S, Braun C, Ebner M, Grigoriadis Y, Haas M, Leitner P, Taraghi B. COVID-19 Epidemic as E-Learning Boost? Chronological Development and Effects at an Austrian University against the Background of the Concept of "E-Learning Readiness". Future Internet 2020;12:94.

19. Badovinac A, Par M, Plančak L, Balić MD, Vražić D, Božić D, Musić L. The impact of the COVID-19 pandemic on dental education: An online survey of students' perceptions and attitudes. Dentistry Journal 2021;9:116.