

Professional motivations and perceptions of senior dental students in the distance education period during the first year of the Covid-19 pandemic

Purpose

Dental students are particularly prone to be affected by the global emergency of Coronavirus-19 (Covid-19) pandemic. The aim of this study was to evaluate the professional motivations and perceptions of senior dental students during the distance education period due to pandemic.

Materials and Methods

The data was collected via an online questionnaire, including questions related to students' professional motivation and perceptions, and views about preventive dentistry. For identifying the distress levels, Turkish version of Depression Anxiety Stress Scale (DASS)-21 was used. Descriptive statistics and marginal homogeneity test were used for statistical analysis.

Results

A total of 114 (83 female, 31 male) students, with the mean age of 23.7±1.03 participated the study. Statistically significant changes were observed on the students' career plans ($p<0.001$); fear about getting and transmitting infectious diseases ($p<0.001$); and satisfaction about their profession ($p<0.001$) during the Covid-19 pandemic. Motivation loss was determined on the participants.







Conclusion

There is an urgent need for revision on dental education in order to ensure the students be competent to provide oral health service that can meet the latest needs and achieve professional self-confidence without deterioration on their professional motivation and perceptions. Crisis-oriented psychological support programs should be provided for students. Some improvements should be structured in terms of preventive dentistry issues, both for dental education and dental health service aspects.

Keywords: Covid-19, dental students, distance education, motivation, preventive dentistry

Introduction

Since the end of 2019, world has spanning a pandemic occurred by a virus which the disease setting named Coronavirus disease (Covid-19) (1). The global emergency of Covid-19 has been extraordinary disruptive for several industries and sectors, including education (2, 3). Worldwide prevention methods like quarantine, social distancing in education and possible working areas, cancellation of flights, postponement of art and sports activities were implemented for an unknown time period. The closure of educational institutions was a necessity for reducing the spread of infection within the community (4). Since mid-March of 2020, face-to-face education in the universities has shifted to distance education in Turkey as in most of the countries in the world (5). In Turkey, the undergraduate education period of dental faculties is 5 years and during the 4th and

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5th years, students receive clinical and theoretical education (6). After 5-years of university education, for dental profession, graduates can work as private dentists, can service in public dental hospitals or may choose to specialize and take the central specialty exam organized by the government. Candidates who want to attend a specialty education are allocated to certain Dental Faculties with this exam (7). The specialty education continues 3 or 4 years according to the preferred program. Students should present a dissertation thesis and take an oral scientific exam to complete the selected program (8).

The consequences of such outbreaks might ruin physical and mental health and affect the professional motivation and career plans as well (9). Being on the list of high-risk professions due to the great infection risk besides bearing the work overload, dentists are much expected to develop severe anxiety related to the current pandemic (10). Sharing these common concerns as graduate candidates, 5th year dental students had also faced with additional challenges with the unexpected university closures and shift to distance education, which may also affect their mental and psychological health (4). From this point, senior dental students about to step practicing their profession are a special group which might be particularly confused about their professional life.

Undoubtedly, it is vital to revise the dental education and dental practice related to current conditions and requirements. Therefore, it is very important to investigate the influence of Covid-19 pandemic on dental students' professional motivations and perceptions for being able to make the necessary revisions on dental education and to eliminate the existing nullified issues. The current study aimed to examine these issues, by evaluating the professional motivations and perceptions of senior dental students during the Covid-19 pandemic.

Material and Methods

Participants

This descriptive cross-sectional study was conducted at Hacettepe University, Faculty of Dentistry, located at the capital city of Turkey. The universe of the study consisted of 150 senior students, enrolled in the faculty during the 2019-2020 academic year.

Ethical statement and data collection

In the Covid-19 pandemic period, education transferred to distance learning beginning from 16th March 2020 until the end of the academic year, for this reason the data were gathered online. Non-interventional Clinical Researches Ethics Board of Hacettepe University approved the study protocol (GO 20/538). Besides, the mandatory formal permission was also obtained from Turkish Republic Ministry of Health (2020-05-21T15_38_18). A questionnaire was developed that reflected the possible impact of Covid-19 on the professional career plans and views of 5th year dental students. The questionnaire was pre-tested with a group of 10 randomly selected 5th year students from other dental faculties. Following the justification of the protocol, the

questionnaire link was posted on the entrance page of the "Hacettepe University Faculty of Dentistry Student Portal" as an announcement and volunteers were asked to participate. Participation was entirely voluntary. In order to encourage students' participation, they were informed that all related data would be kept confidential.

The study questionnaire

The questionnaire was opened by clicking on a link created on an online survey system ("Surveyey.com") and the students were informed about the dates when the link would be active as data collection period (June 24 – July 1, 2020). An informed consent form was placed at the first page of the questionnaire. The questionnaire form consisted of 27 questions: 3 of them regarding sociodemographic characteristics, 4 health conditions and stress status, 7 career plans before the pandemic and in the distance education period, 4 fear from getting an infectious disease or infecting patients, 5 profession satisfaction levels before and after the pandemic, 4 inclusion of "concepts and principles of preventive dentistry" into the curricula of the dentistry faculty. In addition, students were also asked to fill the Turkish version of Depression Anxiety Stress Scale (DASS)-21, which was previously reported to be a useful tool to measure distress levels by means of a self-reported questionnaire (11, 12, 13, 14).

Statistical analysis

The data was analyzed by using Statistical Package for the Social Sciences Version 20.0 (SPSS Inc., Chicago, IL, USA). Frequency and percentages for the qualitative data, and distribution statistics for the quantitative data were used as descriptive statistics. Besides, marginal homogeneity test was used to determine the differences between the responses of the group before and during the pandemic. Statistical significance level was considered as $p < 0.05$.

Results

In this study, 114 of 150 fifth year students participated the online survey. The characteristics of the participants are presented in Table 1. Among the participants, 83 (72.8%) were female. The mean age of the students was 23.7 ± 1.03 ranging between 22 and 28. Among all participants, 9 international students out of 10, 7 Turkish students out of 59 could not go back to their home and they had to stay in Ankara, Turkey; while other 45 were in Ankara at family home during the distance education period. Twenty students (17.5%) reported to have a chronic/systemic disease. Of all students, 31.6%, 18.4% and 13.2% were out of the normal ranges for depression, anxiety and stress, respectively.

Distribution of students' views about their professional motivation and perceptions before Covid-19 pandemic and in the distance education period during the first year of the pandemic are shown in Table 2. The participants reported that their career plans were 44.8% being an academician, 33.3% working in a private practice, 6.1% working in a public dental hospital and 15.8% were undecided before pandemic. Significant changes were observed on students' career plans during the Covid-19 pandemic ($p < 0.001$) (Table 2). According to the

Table 1: Some characteristics of the participants (Ankara-Turkiye, 2020).

Characteristics (n=114)	n	%
Sex		
Female	83	72.8
Male	31	27.2
Age		
X±SD=23.7±1.03; Median: 23.5; 1. Quartile: 23; 3. Quartile: 24; Min.: 22, Max.: 28		
Accommodation in this period		
Foreign student, home country	1	0.9
Foreign student, stated in Ankara	9	7.9
Turkish student, at family home in Ankara	45	39.5
Turkish student, at family home out of Ankara	52	45.6
Turkish student, stated in Ankara	7	6.1
Having a chronic/systemic disease		
No	94	82.5
Yes	20	17.5
Depression status according to DASS 21[†]		
Normal (<9)	78	68.4
More than normal range	36	31.6
Anxiety status according to DASS 21[†]		
Normal (<7)	93	81.6
More than normal range	21	18.4
Stress status according to DASS 21[†]		
Normal (<14)	99	86.8
More than normal range	15	13.2
[†] Severity ranking scores according to DASS-42 (14). DASS-21 mean scores are doubled to calculate severity ranking: Depression: normal = 0-9. Anxiety: normal = 0-7. Stress: normal = 0-14.		

participants' reports, 91.2% was planning to take the central dental specialty exam before the Covid-19 pandemic; no significant changes were observed on students' plans during the distance education period ($p=0.108$) (Table 2). No significant change was observed on students' ($n=96$) first choice for planned dental specialty during the Covid-19 pandemic, which is seen in Table 2 ($p=0.094$). A small number of students who planned to choose invasive clinical practices before the pandemic changed their mind to prefer "oral diagnosis and maxillofacial radiology" and "orthodontics".

The participants reported the fear of getting an infectious disease before the pandemic as "not/a little scared" 54.4%

and "terrified" 1.8%, and fear of transmitting an infectious disease as 80.7% and 1.8%, respectively. Significant changes were observed on students' fear about picking up and transmitting an infectious disease during the pandemic ($p<0.001$) (Table 2). The students who were "little scared" off picking up an infectious disease before the pandemic, changed their mind to "scared" (70.2%) or "terrified" (15.8%). The students who were "little scared" off transmitting an infectious disease before the pandemic, changed their mind to "scared" (61.4%) or "terrified" (6.8%). Furthermore, the students who were "scared" for picking up or transmitting an infectious disease before the Covid-19 pandemic, changed their mind to "terrified" in percentages 46.0% and 25.0%; respectively.

Of all students, 12.3% ($n=14$) stated that they didn't have chosen dentistry by her/himself willingly; 1.8% stated that they were "not satisfied" at all, 3.5% "not glad", 18.4%, "undecided", 46.5% "glad", 29.8% "very glad" to be a dentist before the Covid-19 pandemic. Significant changes were observed on students' satisfaction levels about their profession during the first year of the Covid-19 pandemic ($p<0.001$) (Table 2). Twenty-eight of 53 "glad" students and 3 of 34 "very glad" students turned to be undecided in this period related to their profession. Seven out of 9 "undecided" students before the pandemic, decided "not to work as a dentist" during the distance education period with a statistically insignificant change ($p=0.330$, Table 2).

The responses of the students showed that 107 of the participants (93.9 %) projected some changes in dental profession due to Covid-19 pandemic. Among the students, 60.5% thought that the "preventive dentistry" issues were adequately covered in the dental curriculum before Covid-19 pandemic and 28 (24.6%) were not. Also, 58.8% of the students recommended that the intensity of "preventive dentistry" issues included in the dental curriculum during and after the Covid-19 outbreak should be increased. Among the students who recommended an increase, 40.3% previously used to believe that the "preventive dentistry" issues have been adequately covered. Already, it was found that 39.1% among the students previously believed that the "preventive dentistry" issues were adequately covered in the dental curriculum changed their mind into need for increase. In the same vein, 99 participants (86.8%) thought that the place and importance of "preventive dentistry" would gain even more prominence in dental profession due to Covid-19 pandemic (Table 3).

Discussion

During the first year of the Covid-19 pandemic period, there were several factors such as the social restrictions, prohibitions, quarantine processes, lockdowns, and disruption of face-to-face education etc. that may influence the professional views and psychological states of the students. When countries first entered lockdown phase, universities were at the beginning of the spring semester, in Turkey. In dental schools, students both in their pre-clinical and clinical years had transitioned to online courses and examinations. Fourth- and fifth-year students could not continue the clinical trainings and faced with further concerns about their career. Especially, for fifth year senior students, the unclarity related to graduation, interrupted face-to-face activities, un-

Table 2: Distribution of students' views about their professional motivation and perceptions before and in the distance education period during pandemic (Ankara-Turkiye, 2020).

Views	In the distance education period during pandemic (n, % [†])			p*
	Before Covid-19 pandemic (n, % [†])	Persistent on previous idea	Changed previous idea	
Career plans	n=114 (100.0)	n=78 (68.4)	n=38 (31.6)	<0.001
Being an academician	51 (44.7)	33 (64.7)	18 (35.3)	
Working in a private practice	38 (33.3)	29 (76.4)	9 (23.6)	
Working in a public dental hospital	7 (6.1)	4 (57.1)	3 (62.9)	
Undecided	18 (15.8)	12 (66.7)	6 (33.3)	
Plans for taking central dental specialty exam	n=114 (100.0)	n=101 (88.6)	n=13 (13.4)	0.108
No	3 (2.6)	2 (66.7)	1 (33.3)	
Yes	104 (91.2)	96 (92.3)	8 (7.7)	
Undecided	7 (6.1)	3 (42.9)	4 (57.1)	
Planned first choice dental specialty	n=96 [‡] (100.0)	n=84 (73.7)	n=12 (26.3)	0.094
Oral and maxillofacial surgery	23 (24.0)	20 (87.0)	3 (13.0)	
Oral diagnosis and maxillofacial radiology	2 (2.1)	2 (100.0)	0 (0.0)	
Endodontics	2 (2.1)	2 (100.0)	0 (0.0)	
Orthodontics	10 (10.4)	9 (90.0)	1 (10.0)	
Pediatric Dentistry	18 (18.8)	15 (83.3)	3 (16.7)	
Periodontics	13 (13.5)	9 (69.2)	4 (30.8)	
Prosthodontics	12 (12.5)	11 (91.7)	1 (8.3)	
Restorative Dentistry	9 (9.4)	9 (100.0)	0 (0.0)	
Undecided	7 (7.2)	7 (100.0)	0 (0.0)	
Fear from getting an infectious disease	n=114 (100.0)	n=36 (31.6)	n=78 (68.4)	<0.001
Not scared	5 (4.4)	1 (20.0)	4 (80.0)	
A little scared	57 (50.0)	8 (14.0)	49 (86.0)	
Scared	50 (43.9)	26 (52.0)	24 (48.0)	
Terrified	2 (1.8)	1 (50.0)	1 (50.0)	
Fear of transmitting the infectious disease	n=114 (100.0)	n=38 (33.3)	n=76 (66.7)	<0.001
Not scared	48 (42.1)	8 (16.7)	40 (83.3)	
A little scared	44 (38.6)	14 (31.8)	30 (68.2)	
Scared	20 (17.5)	14 (70.0)	6 (30.0)	
Terrified	2 (1.8)	2 (100.0)	0 (0.0)	
Satisfaction about being a dentist	n=114 (100.0)	n=60 (52.6)	n=54 (47.4)	<0.001
Not satisfied at all	2 (1.8)	2 (100.0)	0 (0.0)	
Not glad	4 (3.5)	2 (50.0)	2 (50.0)	
Undecided	21 (18.4)	12 (57.1)	9 (42.9)	
Glad	53 (46.5)	28 (52.8)	25 (47.2)	
Very glad	34 (29.8)	16 (47.1)	18 (52.9)	
Thinking not practicing the dentistry after graduation	n=114 (100.0)	n=82 (71.9)	n=32 (28.1)	0.330
No	95 (83.3)	81 (85.3)	14 (14.7)	
Yes	10 (8.8)	1 (10.0)	9 (90.0)	
Not sure	9 (7.9)	0 (0.0)	9 (100.0)	

[†]Row percentage [‡] Column percentage [‡]Before the Covid-19, 104 students were planning to take the exam, while 99 were planning after the pandemic; 96 is the number of students who were planning in both periods. *Marginal Homogeneity-test

Table 3: The distribution of the students' views about the place and importance of "preventive dentistry" in dental education and profession (Ankara-Turkiye, 2020).

Views (n=114)	n	%
Thinking any change occurrence in dental profession due to Covid-19 pandemic		
No	4	3.5
Yes	107	93.9
Undecided	3	2.6
Thinking the "preventive dentistry" issues were adequately covered in the dental curriculum before Covid-19 pandemic		
No	28	24.6
Yes	69	60.5
Undecided	17	14.9
The intensity of "preventive dentistry" issues included in the dental curriculum during and after the Covid-19 pandemic		
Should be increased	67	58.8
Should be the same	35	30.7
Should be decreased	6	5.3
No idea	6	5.3
Thinking the place and importance of "preventive dentistry" would gain even more prominence in dental profession due to Covid-19 pandemic		
No	11	9.6
Yes	99	86.8
Undecided	4	3.5

fulfilled clinical courses and infection concerns were all expected to influence their professional views and psychological health (15). Based on these facts, this study was carried out to evaluate the professional motivations and perceptions of the senior dental students in the online education period during the first year of Covid-19 pandemic. It was revealed that the pandemic has influenced the students' views about their profession and career plans to some extent and it is crucial to make some provisions/revisions in dental education for being able to meet the current requirements both for students and dental public health aspects.

Distress is defined as "a set of painful mental and physical symptoms that are associated with normal fluctuations of mood in most people. In some cases, however, it is assessed by as putative self-report measures of depression and anxiety" (16). In this study, the depression, anxiety and stress status of the students were evaluated with DASS-21. The study was carried out, almost at the end of spring semester, 3 months after the detection of first Covid-19 case in the country. This certain period was chosen for revealing the status in a more stabilized online education and moderately normalized-controlled social life period rather than an acute condition. According to the findings of DASS-21, the distress levels of the students might be affected negatively due to the pandemic. However, it's impossible to know the influence of pandemic on the participants' psychological status for certain, since their previous distress levels were something of a puzzle. The results of our study are in line with previous findings. Ozdede et al. (17) reported that the

pre-clinical and clinical dental students in Pamukkale University/Turkey were anxious about Covid-19 evaluated with State-Trait-Anxiety-Inventory (STAI) scales. Hakami et al. (18) from Saudi Arabia reported elevated depression, anxiety and stress among first-to-fifth-year dental students by using DASS-21. Consolo et al. (19) reported an anxiety rate of 10.3% among the dentists in Northern Italy using Generalized Anxiety Disorder-7 (GAD-7) scale. Generali et al. (20) evaluated the psychological impact of Covid-19 on dental students in Emilia-Romagna, the fifth most affected region of Italy by the pandemic, and found that 6.5% of dental students showed symptoms related to high levels of anxiety. Chakraborty et al. (21) conducted a study to screen the depression levels of the dental students and practitioners during the Covid-19 lockdown. They reported a high level of depression among a significant number of dental students and practitioners and highlighted the importance of addressing the mental health needs of these groups during and after the pandemic. The findings of our study are consistent with those reported by the mentioned studies.

The pandemic may have a serious influence on the professional views and career plans of students at the pre-graduation stage. They might have changed their plans due to the lack of their motivation and felt a fear of challenges caused by the Covid-19 crisis they would have to face unpreparedly. Garcia et al. (22) reported that 11.5% of dental and dental hygiene students have changed their career plans regarding the limited employment opportunities, long-term stability of the dental profession, and the interruptions to clinical education and licensure examinations since the Covid-19 outbreak. Consolo et al. (19) stated that the majority of dentists (89.6%) reported concerns about their professional future and the hope for economic measures to help dental practitioners. Agius et al. (23) stated the dental students greatly felt fear of losing their manual dexterity skills and experienced anxiety related to its consequences on their long-term plans. In the present study, the results showed that 66.7% of the students continued to be "undecided" for their career plans after the graduation, while students who previously planned to be an academician, to work in a private practice, to work in a public dental hospital changed their minds as "undecided" in different proportions (21.6%, 15.8% and 42.9%; respectively) due to pandemics. Besides, it is noteworthy that students who were planning to attend pediatric dentistry and periodontology specialty programs before pandemic, changed their ideas towards oral diagnosis and maxillofacial radiology or orthodontics programs, which might be categorized as minimal invasive/non-invasive branches. The loss of motivation, the demand in less invasive and physical contact clinical applications, infection fear and uncertainty about the post-pandemic clinical regulations on profession might be speculated as the reasons for these findings.

Among healthcare professionals, dentists have a great risk of getting infected due to close contact with patients. For infection prevention in dental settings, there is a need to improve understanding of dental healthcare personnel about the basic principles and the use of checklists, policies, and practices about prevention (10, 24). Adeel Ahmed et al. (10) reported that 87.0% of the dental care professionals were afraid of getting infected from a patient/co-worker and

90.0% were anxious while providing a treatment. This is parallel with our results that showed 89.4% of the students were scared or terrified of getting infection. The percentages of "not scared/a little scared" were more than the half (54.4%) before the pandemic. This result might be caused with the thought of performing procedures under approved, safe and adequate protection measures. On the other hand, these former views might be arisen from the thought of "nothing happens to me", which supports the need for revision of dental students' knowledge related to infection control. Furthermore, the percentages of "scared/terrified" for the fear of transmitting an infectious disease to the patients were 19.3% before the pandemic, and increased to 62.3% with the pandemic. The significant increase in these groups might be caused by the negative influence of Covid-19 disease on students. The unexpected Covid-19 disease may have prompted an awakening of the participants about the risks associated with the dental profession. In addition, while 57.1% of "undecided" students about their satisfaction with being a dentist before the pandemic remained their indecisiveness, 39.6% of "glad" and 8.8% of "very glad" students being a dentist changed their mind as "undecided" due to pandemic. This inconstancy about job satisfaction might brought along a loss of motivation. Furthermore, 14.7% of the students who intend to pursue the dentistry profession after graduation decided not to work as dentist during Covid-19 pandemic.

Preventive dentistry prioritizes protection and it is important to handle infectious diseases in terms of oral health. In this study, it was found that 39.1% among the students previously believed that the "preventive dentistry" issues were adequately covered in the dental curriculum changed their mind in "to be increased". This finding make think that some of the students who previously believed that the "preventive dentistry" issues were adequately covered in the dental curriculum, found some deficiencies and changed their mind during the Covid-19 pandemic. The increasing interest, the thought of "preventive dentistry will gain importance after the Covid-19 outbreak", in preventive branches could prevent tooth loss and reduce the need for many aggressive treatments that create a source of infection with aerosol media. Furthermore, 93.9% (n=107) of the students reported that some changes would take place in dental professional practice after the pandemic as an obvious result due to increased awareness.

In order to make it clear, it is very important to pay attention to the limitations of the study. Firstly, the possibility of the negative influence on students' motivation and physiological status was evaluated via an online questionnaire and scale, but their status before the pandemic is not known, which is a critical point to interpret the relation about the pandemic. Also, it should not be forgotten that, the current findings just reflect the feelings and thoughts of the students in the early stage of the Covid 19 pandemic; and the results might have changed nowadays. Additionally, due to the nature of the study plan, the presented results were gathered from only one faculty which limits the generalizability of the findings for all senior dentistry students, who continued their education under different conditions.

As a consequence, the motivation loss and distress signs were observed in senior dental students. The ravages of

pandemic on young dentist candidates who are at the beginning of their careers, is concerning. This negative influence might continue and increase due to the prolonged time of pandemic and exhaustion caused by this period. In any case, universities and education leaders should regularly update their students on what the future can bring in terms of courses or programs without forgetting the importance of social support (25). The necessary efforts should be made by universities to help students stay in good mental and physical health (26). On the other hand, even after the Covid 19 pandemic ends, similar pandemics could be likely experienced in the future. Therefore, by taking lessons from the current trouble, academic members and administrators should take on responsibility to revise dental education and dental health service concepts to meet the current requirements and to be prepared for future crises.

Conclusion

The distress levels of the included students highlight the need for crisis-oriented psychological support programs for dentistry students during Covid-19 pandemic involving institutional counseling services. Dentistry faculties need to revise their education and infection protocols for senior students; so that they can assemble their education completely, achieve professional self-confidence as well as competence to manage oral health services that can meet the latest needs hereupon the Covid-19 pandemic without deterioration on their motivation and perceptions. In terms of "Preventive Dentistry" issues, some improvements are expected to be driven from the actual emergency situation, both for dental education and dental health service aspects.

Türkçe Özet: Kovid-19 pandemisinin birinci yılında uzaktan eğitim döneminde diş hekimliği öğrencilerinin mesleki motivasyonları ve algıları. Amaç: Diş hekimliği öğrencileri, Koronavirüs-19 (Kovid-19) pandemisinin erken dönemde küresel ölçekte yaşanan durumlardan etkilenmeye özellikle daha meyillidir. Bu çalışmanın amacı, son sınıf diş hekimliği öğrencilerinin pandemiye bağlı uzaktan eğitim döneminde mesleki motivasyonlarını ve algılarını değerlendirmektir. Gereç ve Yöntem: Veriler, öğrencilerin mesleki motivasyonları ve algıları ile koruyucu diş hekimliği hakkındaki görüşleri ile ilgili soruları içeren çevrimiçi bir anket aracılığıyla toplanmıştır. Sıkıntı düzeylerini belirlemek için Depresyon Anksiyete Stres Ölçeği (DASÖ)-21'in Türkçe versiyonu kullanılmıştır. İstatistiksel analiz olarak tanımlayıcı istatistikler ve marjinal homojenlik testi kullanılmıştır. Bulgular: Araştırmaya yaş ortalaması 23,7±1,03 olan toplam 114 (83 kadın, 31 erkek) öğrenci katılmıştır. Öğrencilerin Kovid-19 pandemisi sırasında kariyer planlarında ($p<0,001$); bulaşıcı hastalıklara yakalanma ve bulaşıcı hastalıkları bulaştırma korkularında ($p<0,001$); ve mesleklerinden memnuniyetlerinde ($p<0,001$) istatistiksel olarak anlamlı değişiklikler gözlenmiştir. Katılımcılarda motivasyon kaybı tespit edilmiştir. Sonuç: Öğrencilerin, mesleki motivasyon ve algılarında bozulma olmadan, güncel ihtiyaçları karşılayabilecek ağız sağlığı hizmeti verebilecek yeterlilikte olmaları ve mesleki özgüvenlerini kazanmaları için diş hekimliği eğitiminde acilen revizyona ihtiyaç vardır. Öğrencilere kriz odaklı psikolojik destek programları sunulmalıdır. Hem diş hekimliği eğitimi, hem de ağız ve diş sağlığı hizmetleri açısından koruyucu diş hekimliği konularında bazı iyileştirmeler yapılandırılmalıdır. Anahtar Kelimeler: Kovid-19, diş hekimliği öğrencileri, uzaktan eğitim, motivasyon, koruyucu diş hekimliği.

Ethics Committee Approval: Non-interventional Clinical Researches Ethics Board of Hacettepe University approved the study protocol (GO 20/538).

Informed Consent: Participants provided informed consent.

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Author contributions: COO, BGD, EE participated in designing the study. COO, CA participated in generating the data for the study. COO, CA, EM participated in gathering the data for the study. COO, BGD, EE participated in the analysis of the data. COO, BGD, EE wrote the majority of the original draft of the paper. COO, CA, EM, MUT, BGD, EE participated in writing the paper. COO, CA, EM, MUT, BGD, EE have had access to all of the raw data of the study. COO, BGD, EE have reviewed the pertinent raw data on which the results and conclusions of this study are based. COO, CA, EM, MUT, BGD, EE have approved the final version of this paper. COO, CA, EM, MUT, BGD, EE guarantee that all individuals who meet the Journal's authorship criteria are included as authors of this paper.

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