



Effects of Covid-19 Pandemic on the Career Planning of a Group of Dentistry Students

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ABSTRACT

Objectives: The aim of this study is to examine the effect of the Covid-19 pandemic on the career planning and specialization preference of a group of Turkish dental students and related factors.

Materials and Methods: A total of 305 volunteer students from X University Faculty of Dentistry participated in the study. A questionnaire consist of 44 open-ended and multiple-choice questions was sent to the students. Career plans, specialization preferences and the factors affecting them were questioned in the survey for the periods of before and during Covid-19.

Results: With the Covid-19 pandemic, 23.3% of the students changed their career plan and 24.6% of them changed their field of specialization. Regarding the results of this present study, choice of private practice was preferred for career planning after the pandemic. The specialty of choice before the pandemic was Oral and Maxillofacial Surgery whereas the department with the highest increase after the pandemic was Endodontics.

Conclusions: The Covid-19 pandemic affected the career and specialty preferences of dental students. Factors such as working conditions, financial return, and employment opportunities, rather than aerosol and increased risk of contamination, were effective in this change.

Key Words: COVID-19, Dental Specialties, Dental Students, Career Choice.

Bir Grup Diş Hekimliği Öğrencisinin Kariyer Planlamasına Covid-19 Pandemisinin Etkileri

Süreç

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Öz

Amaç: Bu çalışmanın amacı, Covid-19 pandemisinin bir grup Türk diş hekimliği öğrencisinin kariyer planlaması ve uzmanlık alanı tercihine etkisini ve buna etki eden faktörleri irdelemektir.

Gereç ve Yöntemler: Çalışmaya X Üniversitesi Diş Hekimliği Fakültesi'nden 305 gönüllü öğrenci katıldı. Öğrencilere açık uçlu ve çoktan seçmeli toplam 44 soruluk bir anket formu gönderildi. Ankette Covid-19 öncesi ve sonrası kariyer planları, uzmanlık alanı tercihleri ve bunlara etki eden faktörler sorgulandı.

Bulgular: Covid-19 salgınıyla öğrencilerin %23,3'ünün kariyer planında, %24,6'sının ise uzmanlık alanı tercihinde değişiklik görüldü. Kariyer planlamasında pandemi sonrası en çok özel sektörde çalışmak tercih edildi. Pandemi öncesi en çok tercih edilen uzmanlık dalı Ağız, Diş ve Çene Cerrahisi iken, pandemiyle birlikte en çok artış görülen bölüm Endodonti oldu.

Sonuç: Covid-19 pandemisi, diş hekimliği öğrencilerinin kariyer ve uzmanlık alanı tercihlerini etkilemiş, aerosol ve bulaş riski artışından ziyade; çalışma koşulları, maddi getiri ve iş bulma olanağı gibi faktörler bu değişimde etkili olmuştur.

Anahtar Kelimeler: COVID-19, Diş Hekimliğinde Uzmanlık, Diş Hekimliği Öğrencileri, Kariyer Seçimi.

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Introduction

Due to the Covid-19 pandemic that started in Wuhan, China, and viral pneumonia caused by the SARS-CoV-2 virus, there were difficulties in many issues such as the countries' health systems to fight the pandemic.¹ Various measures were taken to prevent the pandemic, such as increasing social distance, using masks, closing some workplaces and schools, and a flexible working system in Turkey as well as all over the world.² Due to these measures, shrinkage was observed in the economies of the countries. Despite the incentives given, employment decreased in many sectors, so it became difficult to find a job.³ In dentistry, due to the high probability of contamination in procedures involving aerosol, some elective procedures were stopped in parallel with the increase in cases, and only emergency treatments were performed in some periods.²

Career plan is the process of determining the goals of the individual during career choice and the tools to be used on the way to this goal. While the right decisions cause happiness and productivity in the work and social life of the individual, the wrong decisions cause unhappiness, inefficiency and reluctance.⁴ Studies have shown that factors such as financial return, interest in the field of specialization or career desired by the individual, ease of finding a job, and social status affect career plans.⁵ Graduated dentists can choose the public or private sector, a specialization or doctoral program within their career planning.⁶

Specialization in dentistry is of vital importance in meeting the specific treatment needs of the population in cases where undergraduate education is insufficient.⁷ In order to meet this need, DUS (Dentistry Specialization Training Entrance Exam), the first of which was held in 2012, was added as an alternative to the previous doctoral education. With this exam, specialization training started in 8 fields, namely Oral and Maxillofacial Radiology (OMFR), Oral and Maxillofacial Surgery (OMFS), Restorative Dentistry, Prosthetic Dentistry, Orthodontics, Endodontics, Pedodontics and Periodontology.^{6,8,9} In 2018, Oral Pathology was included in the specialty training.¹⁰

Pandemics such as Covid-19, which are rare in the world and greatly affect social life, may cause changes in the career plans of individuals due to changing life and work conditions and risks. The aim of this study is to investigate the effects of Covid-19 on the career plan and specialization of 3rd, 4th, and 5th grade dentistry students whose career plans have been largely shaped and who have reached the level of clinical training as trainees.

Material and Method

This study was carried out with the approval of X University Non-Interventional Clinical Research Ethics Committee (No: 2021-03/49) and the permission of the Republic of Turkey Ministry of Health Covid-19 Scientific Research Evaluation Commission (No:2021-03-08T14_32_03).

A total of 305 students of the 3rd, 4th, and 5th grades studying at X University Faculty of Dentistry were participated in the study. In this study, an open-ended and multiple-choice questionnaire consisting of 44 questions was used. Informed consent form was added to the introduction part of the survey regarding the purpose of the study and confidentiality. In the survey, age, gender, class of students, level of knowledge about dentistry before choosing dentistry, Credit and Dormitories Institution's (KYK) Student Loan status; career, and specialty preferences before Covid-19 and with the pandemic were questioned. The questionnaire form used by Kanmodi et al.¹¹ was modified and used for the factors affecting the career plan. In addition, new questions were added, inspired by the work of Garcia et al.⁵ Volunteers were asked to answer the questions on a scale of 1-3 (1 = disagree, 2 = undecided, 3 = agree). The survey form prepared with Google Forms[®] was delivered to students via e-mail and WhatsApp[®] application. Collected data were loaded into the SPSS[®] 22.0 program for statistical analysis. Descriptive statistics and Chi-square tests were applied to the data. It was considered significant if $p < 0.05$.

Results

Of the 305 students who participated in the survey, 61% were female and 39% male. The mean age of the students was 22.5 ± 1.49 . Of these students, 105 (34.4%) were in the 3rd grade, 98 (32.1%) were in the 4th grade, and 102 (33.4%) were in the 5th grade. With the pandemic, 23.3% of the students reported that they changed their career plan and 24.6% reported that they changed their field of specialization.

Working conditions (77.5%), job opportunities (69%) and financial return (66.2%) were found to be the most effective factors in this change in 71 (23.3%) students who changed their career plans with the pandemic. Concern about contagion to the family was significantly higher in males, and fear of contracting infectious diseases was significantly higher in females ($p < 0.05$) (Table 1).

Among 75 students (24.6%) whose specialization preferences changed with the pandemic, interest in the field of specialization (72%), being able to find a job (64%) and financial return (62.7) were the most effective factors. In addition, interest in the field of specialization, working conditions and duration of specialization training in women, and financial return in men were significantly more effective in this change ($p < 0.05$) (Table 2).

58% of all students were getting KYK Student Loans. 27.7% of the students who took credit and 17.3% of the students who did not show a change in their career plan ($p < 0.05$). The tendency to the private sector has increased among students who have received loans and whose career plans have changed. No significant difference was observed between the status of student loans and the change in the field of specialization ($p > 0.05$).

In the students whose career plans changed, there was a significant difference between the genders in their career plans before Covid-19 ($p < 0.05$). Specialization in women and work in the private sector in men was the

most preferred option. However, with the Covid-19 pandemic, interest for the private sector has increased for both genders in career planning (Table 3).

There was no significant difference between genders in the preference of specialization of the students who changed their field of specialization after Covid-19 ($p>0.05$). The biggest increase during Covid-19 in both genders was in Endodontics. During Covid-19, interest in Endodontics, OMFR and Oral Pathology increased in both women and men, and the tendency to Restorative Dentistry and OMFS decreased ($p>0.05$) (Graphic-1).

Discussion

The results of this study, which we planned during the Covid-19 pandemic, wondering about the effect of radically changing living conditions and aerosol environment on the career plans and specialty choices of dental students, showed that approximately 25% of dentistry students were affected by this extraordinary situation.

Due to the Covid-19 pandemic in Turkey, face-to-face education has been terminated and online education has been started in all faculties within the scope of epidemic measures with the decision of the Higher Education Council (YÖK), and this decision was still applied in the form of hybrid education in the 2021-2022 academic year.^{12,13}

While students in dentistry faculties received clinical education only online in the first semester, face-to-face education continued with a limited number of students in the following semesters. Studies conducted during this period reported that dental students' anxiety levels and future anxieties increased as a result of disruptions in education, and as a result, some students could change their career plans.¹⁴ In the literature, only one study was found that examined the impact of the Covid-19 pandemic on the career plan of American dental students.⁵ However, in this study,⁵ the reasons affecting the career choices of the students and their field of specialization were not investigated. As far as we know, this study is the first study to investigate the career planning of Covid-19 in Turkish dentistry students, as well as the first study in the literature to investigate the effect of Covid-19 on specialization preferences.

Like many countries in the world, Turkey's economy has also been adversely affected by the pandemic, and not knowing how long the pandemic will last has had a negative impact on employees and many segments.¹⁵ Özdede and Şahin,¹⁴ in their study investigating the views and anxiety levels of Turkish dentistry students about the Covid-19 pandemic, reported that 24.5% of 249 students were considering changing their profession, and this rate increased in students with high anxiety scores. In this study, it was found that the career plans and specialization preferences of the students changed at similar rates within the field of dentistry. The fact that working conditions, financial return and employment

opportunities are more effective factors than the risk of aerosol formation in students who change their career plans may be associated with economic concerns. The fact that career plan changes are higher in students who receive KYK credits also supports this situation. In addition, the fact that the interest in the field of specialization was found to be higher than the financial return in students who changed their field of specialization may have been effective because the number of women was higher. This is the limitation of our study.

Considering that the most influential factor in career planning is working conditions, it is noteworthy that the tendency towards public sector options such as specialization and application for public service has decreased with the pandemic. The reason for this may be the decrease in the economy and purchasing power, the low number of vacancies for general practitioners in public service, and the higher employment opportunities in the private sector compared to the public sector. In addition, the fear of contagion in the family was found to be significantly higher in male students whose career plans changed, and the fear of contracting infectious diseases in female students. As the reason for this result, it may be thought that the risk of transmission because of exposure to Covid-19 increased, as well as the dentists' inability to perform their profession because of the appointment of dentists in the public sector for filiation and taking PCR samples.

In the study conducted by Garcia et al. on 252 American dentistry and dental hygienist students to examine the impact of Covid-19 on their career plan, 11.2% of the students reported that their career plan had changed and the majority of those who changed their career plan had shifted to the private sector.⁵ It has been reported that the depression and anxiety scores of the students whose career plans have changed are high, while their desire to work in the private sector has increased, their desire to do specialization has decreased, and that these students have more student loan debt. Similarly, in this study, the tendency to the private sector increased in both genders. Although there is no significant difference between students who have changed their career plans and those who do not receive KYK Loans, the trend towards the private sector after covid was seen in this group of students at the highest rate. However, as a limitation in this study, we think that the higher number of female students than males may affect the results in career planning.

One of the main questions in this study is "Is there a transition from fields that more frequent aerosols to less frequent ones?" was the answer to the question. It was assumed that aerosol generating procedures were less in OMFS, Orthodontics, Oral Pathology and OMFR departments, and higher in Endodontics, Pedodontics, Prosthetic Dentistry, Restorative Dentistry and Periodontology departments. According to the results of this study, while the tendency to Orthodontics, OMFR,

Oral pathology increased, the increase in interest in the Department of Endodontics was an unexpected result. With the pandemic, only emergency procedures were carried out in public institutions from time to time, depending on the density of Covid-19 cases, and elective procedures were postponed.¹⁶ Although it includes aerosol generating processes, the reason for the increasing interest in the endodontic department is, it may be that radical treatments have replaced elective treatments in public hospitals and universities. This will naturally cause patients who do not prefer tooth extraction to prefer private sector services, and an increase in financial gain in these centers will also be possible. Again, the extended appointment dates due to covid measures and density in public institutions may have increased the change to the private sector. Financial gain will also increase in private institutions where the risk of transmission is partially reduced since patients will receive faster service and the density is low.

Conclusions

The Covid-19 pandemic has changed the career plan and specialization preferences of about a quarter of dental students after graduation. The effect of aerosol and contamination risk on career and specialty change was found to be less effective than factors such as working conditions, financial return, and difficulty in finding a job. Since this study was conducted shortly after the onset of the Covid-19 pandemic, multicenter studies are needed to examine the long-term effects of the pandemic.

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Conflict of Interest

The Authors declare that there is no conflict of interest.

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Table 1. Distribution of affecting factors in students whose career plans changed during COVID-19 by gender

	Male	Female	Total	p
Working Conditions	74.2%	80%	77.5%	0.845
Financial Income	71%	62.5%	66.2%	0.348
Job Opportunity	61.3%	75%	69%	0.060
Risk of Infectious Diseases	12.9%	20%	16.9%	0.002*
Aerosol Formation Risk	25.8%	22.5%	23.9%	0.216
Concern of Contagion to the Family	22.6%	10.0%	15.5%	<0.001*
Existing Chronic Disease	19.4%	10%	14.1%	0.116

Chi-square test (p: significance level, significant if * <0.05)

Table 2: Factors influencing the before and during COVID-19 specialization preferences of students whose fields of specialization changed

	Male	Female	Total	p
Personal Interest	59.4%	81.4%	72%	0.039*
Job Opportunity	50%	74.4%	64%	0.085
Financial Income	65.6%	60.5%	62.7%	0.044*
Social Status	56.3%	60.5%	58.7%	0.715
Working Conditions	40.6%	65.1%	54.7%	0.009*
Popularity	43.8%	53.5%	49.3%	0.601
Case Diversity	34.4%	46.5%	41.3%	0.55
Ease of Entry	28.1%	46.5%	38.7%	0.069
Complication Risk	34.4%	32.6%	33.3%	0.065
Training Period	15.6%	44.2%	32%	0.026*
Family and Society Impact	31.3%	32.6%	32%	0.158
Training Challenge	15.6%	25.6%	21.3%	0.163
Aerosol Formation	21.9%	20.9%	21.3%	0.571
Risk of Infectious Diseases	9.4%	16.3%	13.3%	0.577
Concern of Contagion to The Family	21.9%	4.7%	12%	0.061

Chi-square test (p: significance level, significant if *<0.05)

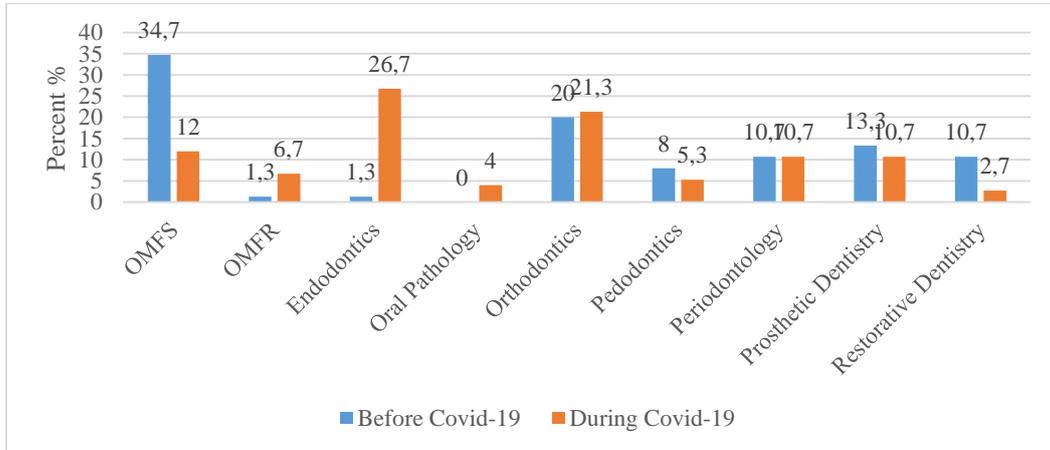
Table 3: Distribution of before and during COVID-19 career plans of students whose career plans changed by gender

	Before Covid-19			During Covid-19		
	Male	Female	Total	Male	Female	Total
Specialization Program	29%	57.5%	45.1%	38.7%	30.0%	33.8%
Apply on Public Service	22.6%	32.5%	28.2%	12.9%	15.0%	14.1%
Working in Private Sector	32.3%	5%	16.9%	41.9%	37.5%	39.4%
Doctoral Program	3.2%	0%	1.4%	0%	0%	0%
Working in Abroad	12.9%	5%	8.5%	6.5%	17.5%	12.7%

$\chi^2: 14.009$ $p < 0.05^*$

$\chi^2: 2.215$ $p > 0.05$

Chi-square test (p: significance level, significant if *<0.05)



Graphic-1: Before and during COVID-19 specialization preferences for students whose fields of specialization changed