

The Effect of Clinical Education on the Career Preferences of Medical Students

ABSTRACT

Objective: The intern medicine period is the last stage of pregraduation medical education and is also a period in which students' postgraduate plans are shaped. This study aimed to determine intern students' future career plans, branch preferences and opinions about specialization.

Methods: Intern students studying at the Van Yüzüncü Yıl University Faculty of Medicine were included in the study. A survey form prepared by the researchers was used as a data collection tool. The data were analyzed with the SPSS 20 program.

Results: The average age of the students (n=125) was 23.2 years, and 63.2% were male. The reasons for choosing medical school were that it was a respectable profession, interest in medicine, and job guarantee. Eighty-four percent of interns wanted to receive specialization training. The percentages of students who preferred the gynecology and obstetrics, general surgery and pediatrics specialties were 12%, 7.2%, and 8.8%, respectively, in the first year and decreased to 6.4%, 4.8%, and 3.2%, respectively, in the sixth year. Professional satisfaction, desire to make a career, status and earning money are the prominent reasons why students think that specialization education is necessary. Among the factors affecting students' branch choices, the top three factors are interest and ideals, examination for specialty in medicine scores, and malpractice risk.

Conclusion: Most of the students aimed to become specialist physicians, their views on branch preferences changed significantly in the sixth year, and there was a serious decrease in surgical branch preferences.

Keywords: Medical education, Medical student, Career choice, Internship and residency

Mehmet Emin LAYIK¹

Söke Fehime Faik Kocagöz State Hospital, Aydın, Türkiye



Duygu KORKMAZ YALÇIN²

Department of Medical Education, Yüzüncüyıl University, Faculty of Medicine, Van, Türkiye



Ali İhsan GÜNGÖR³

Department of Public Health, Dicle University, Faculty of Medicine, Diyarbakır, Türkiye



Received 07.03.2024
Accepted 22.04.2024
Publication Date 02.05.2024

Corresponding author:

Mehmet Emin LAYIK

E-mail: eminlayik@gmail.com

Cite this article: Layık M. E., Korkmaz Yalçın

D., Güngör A. I., The Effect of Clinical Education on the Career Preferences of Medical Students. *J Med Educ Family Med*. 2024;27(1):22-30



Content of this journal is licensed under a Creative Commons Attribution-Noncommercial 4.0 International License.

INTRODUCTION

Medical education (ME) is a long and challenging process that aims to train "good physicians", starting with the entrance to medical school and continuing throughout life. It requires intense effort, patience and dedication.^{1,2}

ME is basically evaluated in three stages: pregraduate medical education, postgraduate medical education and continuing medical education. The World Federation for Medical Education defines this process as "triology" and discusses it in three parts: basic education, specialty/doctoral education and lifelong education. Pregraduate medical education is the educational process from the first year of medical school until graduation from medical school. Pregraduate medical education in Turkey consists of six years, the last year of which is the internship period. Students who successfully completed their pregraduate medical education graduated from medical school as general practitioners.²

After graduating from the Faculty of Medicine, physicians have three options. These options include being placed in an institution through the obligatory service lottery and practicing as a general practitioner, taking the Examination for Specialty in Medicine (TUS) and being placed in a specialty program or postgraduate education (master's degree, doctorate, etc.). Obligatory services must be completed to work in different private sectors, such as private hospitals, clinics, and workplace medicine.³ In recent years, due to globalization, international exchange programs and physician migration, working abroad and/or receiving specialist training abroad have also been added to these options.

Medical specialization programmes in Turkey accept students twice a year through the TUS, which is held in the form of a central examination system. Doctors who graduate from medical faculties as general practitioners choose departments according to the scores they receive in TUS, and their placement in the specialty program is conducted by the Student Selection and Placement Center (ÖSYM) through the central system. Specialist students (resident physicians) placed in a specialization program receive specialization training for varying periods of time depending on the chosen branch.⁴ Throughout medical education, students' future career plans also change and develop. Studies show that the majority of doctor's purpose to receive

specialist training after graduating from medical school.⁵⁻⁸ A study showed that 65% of students want to work abroad.⁵ Although it is not the main subject of this study, the high percentage of students who plan to work abroad is noteworthy. This issue should be investigated comprehensively. In another recent study, this rate was found to be 20%.⁸

When the TUS evaluation reports of candidates who wanted to become specialist physicians in recent years were examined (ÖSYM reports for February 2020), the top three branches were Dermatology, Plastic and Reconstructive Surgery and Radiology, respectively. The branches with the lowest scores and in the last third of the rankings are reported to be Emergency Medicine, Pediatric Surgery and Thoracic Surgery.⁹ In a multicenter study conducted in 2023, when students were questioned about branches, they did not prefer to choose branches; general surgery was first, followed by gynecology and obstetrics, followed by pediatrics and brain surgery.⁵ This situation suggests that there will be a serious decrease in the number of physicians in these nonpreferred branches in the near future. This change in specialty selection trends is a multidimensional and comprehensive issue that can be the subject of a separate study. The factors affecting the choice of branch for specialization education vary. In a study conducted by Başer and Şahin in 2017, students' opinions regarding preference trends centered on the views that "the magnitude of the troubles that come with caring for risky patients is that physicians are not supported by policies, that the work done is not rewarded financially and morally, and that the respect for physicians is lost in society".¹⁰

Students' thoughts and interests regarding their field of specialization when entering medical school are shaped during clinical internships and especially during internships. During the internship period, students who receive bedside training in the hospital have the opportunity to observe every branch. They have intimate knowledge of issues such as work life balance, working conditions, branch-specific emergencies, on-call situations, branch preferences, income, the number of assistants and specialists, and the workload of the department. This perspective expands further during the internship period, and future plans are made in light of these experiences gained during the clinical phases.

This study aimed to determine the career preferences and effective factors of intern students of the Van

Yüzüncü Yıl University Faculty of Medicine and to investigate how career plans and branch preferences change throughout the medical education process.

METHODS

Ethics Committee Approval: Ethics committee approval was obtained from Van Yüzüncü Yıl University Local Ethics Committee (Date: 30.10.2018, Number: 2018-10/194)

Type of Research and Participants

This was a cross-sectional study conducted with intern students of the Van Yüzüncü Yıl University Faculty of Medicine in the 2020-2021 academic year. The population of the research consisted of 160 interns. Participation in the study was voluntary. Since it aimed to reach all the students, sample calculations were not performed, and all students who agreed to participate were included in the study. A total of 125 students participated in the study, and 78% of the population was reached.

Survey Form

A 17-question survey form prepared by the authors was used as a data collection tool in the study. In the first part of the survey, the sociodemographic characteristics of the students were questioned. In the second part of the survey, students were asked questions about their reasons for choosing medical school, the fields they wanted to work in after graduation, their thoughts about the necessity of specialty training, and the factors affecting their choice of specialty. In the last part of the survey, students were asked about their postgraduate plans and specialization preferences.

Data collection process

The surveys were completed using face-to-face interviews, and participation was voluntary. The students were not asked any identifying questions, and the data were collected anonymously. Each survey took approximately 10-15 minutes to complete. After the data collection process was completed, the data were checked by two researchers, transferred to the computer environment and analyzed in the SPSS 20 (IBM, Armonk, NY, USA) package program. Categorical variables were expressed as numbers and percentages. Students' preferences in the first and sixth grades were compared by using a 2-proportion comparison test. The level of statistical significance was accepted as $p < 0.05$.

RESULTS

Complete data from 125 students were evaluated. The average age of the participants was 23 ± 4.65 years, and 63.2% ($n=79$) were male. A total of 54.4% ($n=68$) of the students were Anatolian high school graduates, 10.4% ($n=13$) had an income less than their expenses, and 64.8% ($n=81$) were living in a student house. The sociodemographic characteristics of the students are presented in Table 1.

Table 1. Sociodemographic characteristics of the participants ($n=125$)

		Count (n)	Percent (%)
Gender	Male	79	63.2
	Female	46	36.8
Income Status	Income and expense equal	79	63.2
	Income exceeds expenses	33	26.4
	Income is less than expenses	13	10.4
Mother's Educational Status	Illiterate	30	24.0
	literate	10	8.0
	Primary school	35	28.0
	Middle school	12	9.6
	High school	21	16.8
Father's Educational Status	University	17	13.6
	Illiterate	9	7.2
	literate	10	8.0
	Primary school	20	16.0
	Middle school	16	12.8
High School Graduated	High School	34	27.2
	University	36	28.8
	Anatolian High School	68	54.4
	Science high school	24	19.2
	Normal high school	19	15.2
	Teacher high school	8	6.4
	Private high school	4	3.2
Accommodation	Imam Hatip high school	2	1.6
	Student house	81	64.8
	Homestay	24	19.2
	Government dorm	17	13.6
	Other	3	2.4

The students' preferences for medical school were that it was a respectable profession (50.4%), they were interested in medicine (48%), and there was a job

guarantee (47.2%) (Table 2). After graduation, students most frequently wanted to work in tertiary care (58.4%, n=73) and second most frequently in primary care (25.6%, n=32). A total of 51.2% (n= 64) of the students stated that specialization education was necessary in terms of professional satisfaction, 36.8% (n=46) in terms

of making a career, and 15.2% (n=19) in terms of status. Eight percent of the students (n= 10) did not find specialist training necessary (Table 2). The students' responses regarding situations that may affect their specialty preferences are shown in Table 2.

Table 2. Participants' reasons for choosing medical school, the fields they want to work in and their reasons, and their thoughts about specialty training

Students'		Count* (n)	Percent** (%)
Reasons for choosing the Faculty of Medicine	Being a respectable profession	63	50.4
	Interest in medicine	60	48.0
	Having a job guarantee	59	47.2
	Family and environmental guidance	47	37.6
	Helping people	46	36.8
	Having a high score	26	20.8
Areas they want to work in	Primary Healthcare	32	25.6
	Secondary Healthcare	28	22.4
	Tertiary Healthcare	73	58.4
	Public health directorates	22	17.6
	112 command centers	16	12.8
	Private clinics and hospitals	13	10.4
	Pharmaceutical companies	6	4.8
	Other	3	2.4
Thoughts on specialization	Necessary, in terms of professional satisfaction	64	51.2
	Necessary for career building	46	36.8
	Necessary, in terms of status	19	15.2
	Necessary, in order to earn more profit	12	9.6
	Necessary, other (in terms of doing one's job thoroughly in a certain field, specialization (scientific))	10	8.0
	Not necessary	10	8.0
	Necessary, in terms of family and environmental pressure	6	4.8
Factors affecting the choice of specialization	Interest and ideal	95	76.0
	TUS score	81	64.8
	Risk of malpractice	76	60.8
	Presence and duration of seizure	74	59.2
	Financial	67	53.6
	Intensity of working hours	67	53.6
	Personal abilities	64	51.2
	Career opportunity	50	40.0
	Working conditions	47	37.6
	Having a clear future	46	36.8
	Assistantship duration	42	33.6
	Gender	39	31.2
	Mobbing situation	35	28.0
	Having the opportunity to minor	33	26.4
	Reputation in society	30	24.0
Having the opportunity to work in the private sector	28	22.4	
Other	3	2.4	

*The total number is more than 125 since more than one option can be selected.

** Since more than one option is selected, the total percentage is more than 100%.

When students' career preferences are questioned, 79.2% (n=99) of first-year students and 84% (n=105) of sixth-year students want to receive specialist training. There was no statistically significant difference between the first and sixth grades in terms of the desire to receive specialist training ($p>0.05$).

The number of students who want to work outside the field after graduation has not changed. While students' desire to become a general practitioner decreased in the sixth grade compared to the first grade, their desire to receive medical specialization training increased. The postgraduate plans of students in the first and sixth grades are shown in Figure 1.

There was no statistically significant difference ($p>0.05$) between students who were undecided about their branch choice in either the first or sixth grade (24.8% and 25.6%, respectively).

In the sixth grade, the preference rates for both the departments of dermatology (from 0.8% to 4.8%) and radiology (from 0.8% to 3.2%) increased significantly compared to those in the first grade ($p<0.05$).

Other departments whose preference increased in the sixth grade were the Eye Diseases, Internal Medicine, Family Medicine, Emergency Medicine, Otorhinolaryngology and Physical Medicine and Rehabilitation departments (Table 3). The percentages of intern-year departments with a decrease in the number of preferences compared to those in the first year were as follows: general surgery (from 12% to 6.4%), cardiology (from 8.8% to 4%), gynecology and obstetrics (from 7.2% to 4.8%) and pediatrics (from 7.2% to 4%). Preference rates for the plastic surgery, brain surgery, psychiatry, neurology and cardiovascular surgery departments also decreased in the sixth grade compared to the first grade. The decrease in the preference for surgical branches was noteworthy (Table 3).

Table 3. Students' Specialization Field Preferences in the First and Sixth Years (n=125)

Field of specialization preferences	First Year		Sixth Year	
	Count (n)	Percent (%)	Count (n)	Percent (%)
I'm undecided	31	24.8	32	25.6
General surgery	15	12.0	8	6.4
Cardiology	11	8.8	5	4.0
Plastic surgery	9	7.2	7	5.6

Field of specialization preferences	First Year		Sixth Year	
	Count (n)	Percent (%)	Count (n)	Percent (%)
Gynecology and obstetrics	9	7.2	6	4.8
Pediatrics	9	7.2	4	3.2
Brain surgery	7	5.6	6	4.8
Eye diseases	4	3.2	5	4.0
Internal diseases	4	3.2	5	4.0
Orthopedics and traumatology	3	2.4	3	2.4
Family medicine	3	2.4	5	4.0
Mental health and diseases	3	2.4	2	1.6
Neurology	3	2.4	1	0.8
Cardiac surgery	3	2.4	1	0.8
Emergency medicine	2	1.6	5	4.0
Otorhinolaryngology	2	1.6	3	2.4
Physical Medicine and Rehabilitation	2	1.6	3	2.4
Dermatology	1	0.8	6	4.8
Radiology	1	0.8	4	3.2
Forensic medicine	1	0.8	1	0.8
Radiation oncology	1	0.8	0	0
Sports medicine	1	0.8	0	0
Urology	0	0	3	2.4
Biochemistry	0	0	2	1.6
Thoracic surgery	0	0	2	1.6
Pediatric surgery	0	0	2	1.6
Anesthesiology and reanimation	0	0	2	1.6
Infectious diseases	0	0	1	0.8
Public health	0	0	1	0.8
Medical education	0	0	0	0
Pharmacology	0	0	0	0
Pathology	0	0	0	0
Anatomy	0	0	0	0
Histology and embryology	0	0	0	0
Microbiology	0	0	0	0
Physiology	0	0	0	0

The preference of the Orthopedics and Forensic Medicine departments did not change between the first and sixth grades.

In the first and sixth grades, nobody indicated that they would prefer basic sciences (e.g., Pharmacology, Pathology, Anatomy, Biophysics, Biostatistics,

Physiology, Histology and Embryology, Microbiology, Medical Education) or Child Psychiatry, Chest Diseases, Nuclear Medicine departments. While the branches of biochemistry, urology, public health, infectious diseases, anesthesiology, thoracic surgery and pediatric surgery were not considered by anyone in the first year, they became among the preferred branches in the sixth year (Table 3, Figure 2).

DISCUSSION

This study was conducted to investigate the opinions of interns about their postgraduate career plans and medical specialty education and to determine the effects of clinical education on their specialty field preferences.

Our research results showed that the majority of students want to receive specialized training and that their branch preferences differ significantly between the sixth grade and the first grade. No change was detected in the proportion of students who were undecided about their branch choice between the first and sixth grades. The literature contains various studies on why students choose medical faculty, their specialty preferences, and the factors affecting these preferences.¹¹⁻¹⁵ We focused on the effects of clinical education on students' specialty preferences.

In two different studies, students' reasons for choosing medical school were having a field of interest, providing professional help, social prestige, professional satisfaction and obtaining high income.^{13,16} In a study conducted in Antalya, the reasons for choosing medical faculty were determined to be prestige, job guarantee, interest in medicine, benefiting people, university entrance exam score, and guidance from family and environment.⁶ In a study conducted in Malatya, reasons such as the desire to be helpful to patients, being a successful student, being interested in medicine, and thinking that medicine is a respected profession were listed as reasons for preference.¹⁵ In another study, the first three reasons for preference were reported to be the desire to help people, guidance from family and/or teachers, and a respected profession, followed by economic reasons.¹⁷ In two separate studies, it was determined that ideals and the desire to help people came first among the reasons for choosing medical school.^{18,19} In our study, the reasons why students chose medical school were that it is a respected profession, interest in medicine, a job guarantee, guidance from

family and the environment, a desire to help people, and a high score. Since physicians who graduate from medical school are general practitioners and do not have to worry about finding a job, the job guarantee becomes one of the prominent reasons for choosing medical school.

According to the literature, the majority of students who graduate from medical school want to pursue a career. In Dörtyol's (2017) study, the postgraduate career plans of physician candidates were determined to be taking the TUS exam and working in tertiary healthcare institutions.⁶ Köksal et al. (1999) studied 1340 students and reported that 87.5% of the students wanted to become experts.¹² In Nas and Tanrıverdi's study (2022), it was determined that 74% of newly graduated physicians wanted to receive specialty training.⁸ In our study, it was determined that, in line with the literature, almost all of the students wanted to receive specialist training and work in tertiary care. In two separate studies conducted abroad, it was shown that students want to work in a hospital in their career plans.^{20,21} Tengiz and Babaoğlu, whose study was conducted in 2020, determined that all interns wanted to receive specialty training and that none of them wanted to work as general practitioners.⁷ In our study, the proportion of students who wanted to receive specialization training after graduation did not change between the first and sixth grades. The fact that the majority of physicians want to receive specialization training and branch out may lead to disruptions in primary care services in the long term. Ergin et al. (2011) emphasized the necessity of implementing measures that would change the existing situation due to the risk of excessive specialization.¹⁴

It has been reported in the literature that various factors, such as professional satisfaction, status, career and economic return, are effective for students who want to receive specialized training.^{7,22} Tengiz and Babaoğlu (2020) reported that the factors that most affected students' career choices were "lifestyle flexibility" and "acceptable working hours".⁷ Öztürk and Erensoy (2019) reported that the most common reasons why students wanted to receive specialist training were professional satisfaction and prestige.²² In our study, the most important factors affecting students' branch preference were field of interest and ideals (76%), TUS score (64.8%), malpractice risk (60.8%), and presence and duration of seizures (59.2%).

When the branch preferences were examined, in the study conducted by Köksal et al. (1999), the most common ones were Pediatric Health and Diseases, Internal Medicine, Gynecology and Obstetrics, Cardiology and General Surgery.¹² In the study of Ergin et al. (2011), the order of preference was Dermatology, Psychiatry and Cardiology.¹⁴ In the study by Tekin, Güneş and Türkol (2013), these branches were defined as “eye disease”, “cardiology”, “gynecology” or “gynecology and obstetrics”. It seems that the preferred areas are mainly clinical areas.¹¹ In the studies of Öztürk and Erensoy (2019), the preference rates for internal, surgical and basic medicine sciences were 57%, 40% and 3%, respectively.²² According to Nas and Tanriverdi's study (2022), 69% of the students preferred the internal branch, 26% preferred the surgical branch, and 5% preferred the basic sciences.⁸ While medical students receive internship training in the clinic, they have the opportunity to work in every branch and make detailed observations; thus, their career choices become clear. In our study, while general surgery, cardiology, plastic surgery, gynecology and pediatrics were preferred in the first year, there was a significant decrease in the preference for these branches in the sixth year. In particular, there has been a shift away from the main branches, and there has been an increase in all specific branches that do not require subbranches. The reasons why students change their preferences in the sixth grade should be revealed through more comprehensive research.

Köksal et al. (1996) reported that financial return comes first, followed by ideals such as specializing in a single branch and being a better.¹² In the study by Ergin et al. (2011), professional satisfaction ranked first, while financial return ranked second.¹⁴ In Dörtol's study, the reasons for preference were area of interest, TUS score, presence of seizures, working hours, financial return and malpractice risk.⁶ In our study, the most important factors affecting the choice of branch were the field of interest and ideals, TUS score, malpractice risk, presence of seizures, financial return and intensity of working hours. In two separate studies conducted abroad, it was shown that financial return has an important role in career choice.^{23,24} When specialization preference and reasons for preference were examined, the prominent factors affecting both the change in students' ideals and the final decision were found to be more suitable working conditions, malpractice risk in the relevant field, working environment and economic concerns.

Limitations

Our study has several limitations. First, this was a cross-sectional study conducted with interns of a single medical school. The results may not be generalizable to medical students. However, since the students have similar profiles, it can be thought that medical students are represented. Second, in the survey, students' opinions in the first grade were also questioned when they were in the sixth grade. This may cause recall bias. Finally, only categorical data were included in the data collection. Factors affecting students' reasons for choice should be investigated through more comprehensive studies.

CONCLUSION

As a result, most of the intern students of the Faculty of Medicine where our study was conducted wanted to receive specialized training and work in tertiary care after graduation. When the field preferences of the students were examined, most of them stated that they were undecided. While departments such as dermatology and plastic surgery are more in demand, the number of students who want to choose some departments such as Cardiovascular Surgery, Chest Diseases, Neurology, Infectious Diseases, Forensic Medicine, Child Psychiatry, Public Health and Nuclear Medicine is only one. It has not been a preferred field other than biochemistry, one of the basic medical sciences. Although the majority of students state that they want to be experts, the percentage of those who are undecided about their career plan is high. Considering that every graduating student has to work in primary care with obligatory service, it may be thought that there are deficiencies in both mental readiness and quantitative competence for primary care.

In addition, it is known that the lack of specialists in some vital basic, surgical and internal branches is inadequate today due to malpractice and working conditions and that this gap cannot be closed and may even increase. This may lead to significant risks to public health.

According to the results of this study, providing career counseling to students in pregraduation and postgraduate education, regulating working conditions (such as work-life balance, shift periods, violence in health, and economic return), and conducting comprehensive research (the reasons for branches that are less or not preferred) are needed.

To provide a balanced health service, it may be beneficial to understand the reasons for the large differences in preferences between branches, to take the necessary precautions, and to increase legal measures to protect physicians, especially in departments at high risk of malpractice.

Ethics Committee Approval: Ethics committee approval was obtained from Van Yüzüncü Yıl University Local Ethics Committee (Date: 30.10.2018, Number: 2018-10/194)

Informed Consent: Consent was obtained from all participants.

Peer-review: Externally peer-reviewed.

Author Contributions: Concept-MEL,DK; Design-MEL,DK ; Supervision-MEL,DK ; Resources-MEL DK,; Data Collection and/or Processing-MEL,DK; Analysis and/or Interpretation-MEL,DK*; Literature Search-MEL,DK,AIG; Writing Manuscript- MEL,DK,AIG; Critical Review-MEL,AIG, DK

Declaration of Interests: The authors have no conflicts of interest to declare.

Funding: The authors declared that this study has received no financial support.

* The summary of the relevant study is presented as an oral presentation at EDUCONGRESS 2023.

REFERENCES

1. Cansever Z, Avşar ÜZ, Acemoğlu H, Çayır Y, Avşar Ü. The Reasons for Choosing Medical Education and Expectations of the First Year Students in Atatürk University Faculty of Medicine. *Konuralp Med J*. 2014;6(1):17-21. www.konuralptipdergi.duzce.edu.tr
2. Sayek İ. Tıp Eğitiminin Gelişimi ve Değişim: 21. Yüzyılda Tıp Eğitimi. In: Sayek İ, ed. *Tıp Eğitici El Kitabı*. Güneş Tıp Kitabevleri; 2016:3-11.
3. Devlet Hizmet Yükümlülüğü Hakkında Genelge. Published 2002. Accessed February 12, 2024. <https://www.saglik.gov.tr/TR,10571/devlet-hizmeti-yukumlulugu-hakkinda-genelge.html>
4. Tıpta Uzmanlık Tüzüğü. Published 2002. Accessed February 12, 2024. <https://www.mevzuat.gov.tr/MevzuatMetin/2.5.20024198.pdf>
5. Ekmen E, Keklik B. A Study on Career Preferences of Medical Faculty Students. *Süleyman Demirel Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*. 2023;3(47):21-47.
6. Gökteş Dörtöyol B. Future Thoughts and Career Choices of Last Year of Medical Faculty Students and Affecting Factors. *World of Med Ed*. 2017;50:12-21.
7. Tengiz Fİ, Babaoğlu AB. Career Preferences of Senior Students in Faculty of Medicine and Factors Affecting These Preferences. *Med J SDÜ*. 2020;27(1):67-78. doi:10.17343/sdutfd.560350
8. Nas MA, Çınar Tanrıverdi E. Self-Efficacy Perceptions, Career Choices, and the Opinions on the Impact of the COVID-19 Pandemic on Education of Newly Graduated Physicians. *World Med Edu*. 2022;21(65):31-41. doi:10.25282/med.1055858
9. 2020-TUS 1. ve 2. Dönem Değerlendirme Raporu.; 2021. Accessed February 13, 2024. <https://dokuman.osym.gov.tr/pdfdokuman/2020/GENEL/TUSdonem1-2degrapor22012021.pdf>
10. Başer A, Şahin H. Medical Education from Atatürk to Present. *World Med Edu*. 2017;48:70-83.
11. Tekin Ç, Güneş G, Türkol E. Residency Choices of Medical Students at İnönü University Medical Faculty and the Factors to Affect These Choices. *Journal of İnönü University Health Sciences*. 2013;1:5-10.
12. Köksal S, Vehid S, Tunçkale A, et al. The attitude of students of Cerrahpaşa School of Medicine on medical education and post graduated situation. *Cerrahpaşa J Med*. 1999;30(4):251-258. <http://www.ctf.edu.tr/dergi/online/1999v30/s4/994a1.htm>
13. Girasek E, Gaál P. *Resident Doctors' Motivation for Specialisation Choice and Working in Rural Areas*. 2012.
14. Ergin A, Dikbaş E, Bozkurt Aİ, et al. Career Choices of Medical Faculty Students After Graduation and Affecting Factors. *World Med Edu*. 2011;32:8-17.
15. Genç G, Kaya A, Genç M. Factors Affecting Career Choice of Medical Faculty Students at İnönü University. *Inonu University Journal of the Faculty of Education*. 2007;8(14):49-63.
16. Gąsiorowski J, Rudowicz E, Safranow K. Motivation towards medical career choice and future career plans of Polish medical students. *Advances in Health Sciences Education*. 2015;20(3):709-725. doi:10.1007/s10459-14-9560-2
17. Çınar Tanrıverdi E, Gürpınar E. The Impact of the COVID-19 Pandemic on Medical Students' Attitudes of Professionalism: A Cross-Sectional Study. *New Trend Med Sci*. 2022;3(2):111-119. doi:10.56766/ntms.1165669
18. Çınar Tanrıverdi E. Professional Attitudes of Third-Year Medical Students: A Cross-Sectional Study. *Van Med J*. 2022;29(2):197-206. doi:10.5505/vtd.2022.21546
19. Çınar Tanrıverdi E, Taştan K. The Effect of Education with Simulated Patient on the Empathy Attitudes of Medical Students: An Intervention Study. *Konuralp Med J*. 2022;14(1):42-48. doi:10.18521/ktd.990762
20. Gibis B, Heinz A, Jacob R, Müller CH. The Career Expectations of Medical Students. *Dtsch Arztebl Int*. 2012;109(18):327-332. doi:10.3238/arztebl.2012.0327
21. Kleinert R, Fuchs C, Romotzky V, et al. Generation Y and

- surgical residency – Passing the baton or the end of the world as we know it? Results from a survey among medical students in Germany. *PLoS One*. 2017;12(11). doi:10.1371/journal.pone.0188114
22. Öztürk Kaygusuz T, Erensoy A. The Opinions about Medical Education and Vocational Expectations of Last Class Medical Students According to Gender. *F.Ü.Sağ.Bil.Tıp.Derg.* 2019;33(3):127-135. doi:10.01.2019
23. Al-Fouzan R, Al-Ajlan S, Marwan Y, Al-Saleh M. Factors affecting future specialty choice among medical students in Kuwait. *Med Educ Online*. 2012;17(1). doi:10.3402/meo.v17i0.19587
24. Morra DJ, Regehr G, Ginsburg S. Medical Students, Money, and Career Selection: Students' Perception of Financial Factors and Remuneration in Family Medicine. *Fam Med*. 2009;41(2):105-110.