

# DETERMINATION OF CAREER CHOICES AND REASONS FOR INTERN PHYSICIANS AT DOKUZ EYLUL UNIVERSITY FACULTY OF MEDICINE

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## ABSTRACT

**Purpose:** In this study, it was determined the characteristics and reasons of career choices of intern physicians who are educated at Dokuz Eylul University Faculty of Medicine in the period 2021-2022.

**Material and Methods:** This descriptive study was conducted between August 2021 and February 2022 at the Dokuz Eylul University, Faculty of Medicine. The data were collected online through Google Forms with a previously experimented questionnaire. The questionnaire was completed by 272 intern physicians (83.4% response rate).

**Results:** Only 27.0% of the intern physicians stated that they wanted to work in the deprived area, while 89.3% of them thought of becoming a specialist after graduation. 30.9% of the intern physicians stated that they wanted to work at a university after graduation, and 25.7% of them thought of a career abroad. The three departments most frequently stated by interns as their first choice are Psychiatry (9.5%), Ophthalmology (6.9%) and Dermatology (6.9%). The first five factors that intern physicians answered as "very influential" on the choice of profession, acceptable working hours (84%), working conditions after specialization (82.9%), occupational satisfaction (78.4), violence against healthcare workers (74.3%), residency training conditions (73.6%).

**Conclusion:** Specialization is the most important career option for medical students after graduation. It is seen that acceptable working hours, working conditions after specialization, job satisfaction, violence against healthcare workers, conditions of residency training, malpractice lawsuits and high-income opportunities are influential in the selection of specialization. Future research may focus on the attitudes of Turkish medical students toward working abroad.

**Keywords:** Career choice, specialization, intern physician, abroad

## INTRODUCTION

The title "medical doctor" is acquired after completing six years of study at the school of medicine. Graduate physicians have the option of working as general practitioners or starting residency training in one of the internal, basic, or surgical sciences by passing the Exam for Specialization in Clinical Medicine.

Continuing postgraduate education with doctorate (PhD) degrees is another option besides medical specialty. According to OECD data for 2021, the country with the highest rate of specialization among OECD countries is the United States (88.3%), while Norway has the lowest (42.6%). Also in OECD countries, Portugal (48.4%) has the highest overall

general practitioner rate and Greece has the lowest general practitioner rate (5.6%). In the same report, 32.5% of physicians in Turkey are general practitioners and 67.5% are specialists (1). In Turkey, general practitioners and specialists can work in a variety of institutions. These institutions may be family medicine associated with primary healthcare in the Ministry of Health or various institutions associated with the District Health Directorate, while there may be private polyclinics. The Ministry of Health's Branch Hospitals and Public Hospitals, as well as Private Branch Hospitals, Private Hospitals and Private Medical Centers, can be categorized under the category of Private for secondary care. The institutions where physicians can work within the scope of the tertiary care are university hospitals, education and research hospitals, special branch education and research hospitals (2). The frequency of intern physicians' requests to become specialists in Turkey was found as 89.6% in the study Köksal et al. and 99.2% in the study Dikici et al. (3,4). In the study by Dörtyol et al. it was determined that the vast majority of intern physicians after graduation want to work in tertiary healthcare institutions (5).

Choosing a career is a complex process (6). It has been stated that a person's value judgments, interests, beliefs and personal characteristics play a significant role in defining their career and that if decisions are made based on these characteristics, they would be satisfied in both their personal and professional lives (6,7). Physicians' specialization preferences are usually determined during their medical education or practice as a general practitioner. It has been found that when choosing a field of specialization, factors such as financial opportunities, status, job happiness, academic career aspirations, family obligations, and societal pressure are taken into account (8,9). Health transformation program had an impact on medical specialization choice of the graduates. Difficulties in the delivery of health care are also effective in career choice. Violence against healthcare professionals, which has grown rapidly in recent times, may affect physicians when determining their careers. Similarly, the abundance of malpractice lawsuits and the concentration of malpractice lawsuits in certain medical branches may also be a determining factor in career choice. As shown in the Student Selection and Placement Center, Exam for Specialization in Clinical Medicine 2020 Evaluation Report, the least preferred branches have now become the major surgical

branches (10). The sudden, devastating, complex nature of health emergencies can cause people to experience stress, often leading to anxiety, insomnia, and other mental disorders (11). Therefore, it is seen that the departments that may have partially relaxing lifestyle features, such as the request for acceptable working hours and the ability to determine the holidays, are preferred more frequently by physicians (12).

Physician migration, which has been on the global health agenda since the late 1990s, has been frequently raised in Turkey recently (13). In the data transferred from Turkey, it is seen that the preference for abroad in career choice has increased over the years (14). Physicians have problems with their own lives in the countries where they emigrate, and that trust problems increase for migrant healthcare workers in high-income countries (15). However, in migratory countries, the shortage of healthcare workers can deepen the gap in this regard, the quality of health services is badly affected and access to good health care is weakened (16). Besides, the experience of the COVID-19 pandemic and changes in health policy in countries can also be effective in career choices (8). Frequent exposure to COVID-19 cases, heavy workload and long working hours cause physical and mental exhaustion in healthcare workers (17). Although studies are carried out in this field, it is important to investigate how the career choices of intern physicians are affected by changing health conditions and to examine the effect of current events on medical education on specialization. In this study, it was aimed to determine the characteristics and reasons of career choices of intern physicians who are being educated at Dokuz Eylül University Faculty of Medicine in the period 2021-2022.

## MATERIAL AND METHODS

This descriptive study was conducted between August 2021 and February 2022 at the Dokuz Eylül University Faculty of Medicine. It reached all 326 intern physicians who studied at Dokuz Eylül University Faculty of Medicine in the 2021-2022 academic year. The study's variables include the sociodemographic characteristics of intern physicians as well as characteristics related to career decisions and the reasons that affect this decision gathered from the literature. The data were collected online through Google Forms with a previously experimented questionnaire. 18 questions made up the questionnaire, 10 of which were about

**Table 1.** Distribution by sociodemographic characteristics

Characteristic	n (%)	
Gender (n=271)	Woman	139 (51.1)
	Man	132 (48.7)
Marital status (n=272)	Single	270 (99.3)
	Married	2 (0.7)
Place where participant resided the longest (n=272)	Town	231 (84.9)
	Country	41 (15.1)
Perception of income and expenditure of the family (n=272)	Income is more than expenditure	94 (34.6)
	Income is equal to expenditure	135 (49.6)
	Income is less than expenditure	43 (15.8)
Mother's education status (n=272)	Illiterate	14 (5.1)
	Literate	6 (2.2)
	Primary school	56 (20.6)
	Middle school	24 (8.8)
	High school	54 (19.9)
	University	118 (43.4)
Father's education status (n=272)	Illiterate	1 (0.4)
	Literate	5 (1.8)
	Primary school	41 (15.1)
	Middle school	15 (5.5)
	High school	48 (17.6)
	University	162 (59.6)
Graduated high school type (n=272)	Science High School	125 (46.0)
	Anatolian High School	90 (33.1)
	Private High School	25 (9.2)
	Anatolian Teacher High School	22 (8.0)
	Regular High School	8 (2.9)
	Basic High School	1 (0.4)
	Religious Vocational High School	1 (0.4)
The presence of a physician in the family (n=233)	Yes	210 (77.2)
	No	23 (22.8)

**Table 2.** The answers of the study group to some questions about career

Characteristic		n (%)
The reason for choosing the Faculty of Medicine (n=271)	Be interest in medicine	76 (28.0)
	Job guarantee	51 (18.8)
	Family/relative referral	40 (14.8)
	Helping people	34 (12.5)
	Respectable profession	30 (11.1)
	Score taken in undergraduate placement exam	26 (9.6)
	Others (Economic reasons, childhood dream, becoming a surgeon)	14 (5.2)
Desire to work in the deprived area (n=270)	No	103 (38.1)
	Yes	73 (27.0)
	Undecided	94 (34.8)
Career plan after graduation (n=271)	Becoming a medical specialist	242 (89.3)
	Becoming a general practitioner	11 (4.1)
	Do one's doctorate in	11 (4.1)
	Becoming an occupational physician	2 (0.7)
	Undecided	2 (0.7)
	A non-medical profession	2 (0.7)
	Dealing with alternative medicine	1 (0.4)
Institution where wanted to work after graduation (n=272)	University	84 (30.9)
	Abroad career	70 (25.7)
	Public hospital	31 (11.4)
	Private hospital	31 (11.4)
	Consulting room	20 (7.4)
	Family health center	17 (6.3)
	Community health center	12 (4.4)
	Administrative function	3 (1.1)
	A non-medical profession	2 (0.7)
	Working for a pharmaceutical company	1 (0.4)
	Undecided	1 (0.4)
Perception of the effects of studying for Exam for Specialization in Clinical Medicine on medical education (n=271)	Negative impact	143 (52.8)
	Positive impact	106 (39.1)
	Affectless	22 (8.1)

professional careers, 2 regarding medical specialization, and 2 about medical education. The questionnaire was completed by 272 intern physicians (83.4% response rate). Data indicated by measurement were displayed with average ± standard deviations, while data provided by count were presented with percentage distributions. Permission was obtained from the Dean of the Faculty of Medicine and approval was obtained from the Ethics Committee of Dokuz Eylul University for Non-Interventional Research (Date: 25.08.2021- Decision No: 2021/24-03) for the study.

**RESULTS**

The mean age of the study group was 24.9±1.4 (23-31) and 48.7% were male. The school from which most of the participants graduated is Science High School (46.0%), the education of mothers and fathers are university (43.4%, 59.6%), and the place where they lived the longest is the town (84.9%). The median number of siblings of the study group was 1 (1-2). 77.2% of them have a physician in their family. Socio demographic characteristics are shown in Table 1.

The two top reasons for choosing medicine are having a job guarantee (18.8%) and having an

interest in medicine (28.0%). Only 27.0% of the intern physicians stated that they wanted to work in deprived area, while 89.3% of them thought of becoming a specialist after graduation. 30.9% of the intern physicians stated that they want to work at the university after graduation as a specialist or resident. 25.7% of them stated that they are planning a career abroad. 52.8% of the participants thought that studying for Exam for Specialization in Clinical Medicine negatively affects medical education (Table 2).

The branches preferred by the study group and their order of preference are shown in Table 3. The three departments most frequently stated by intern physicians to write to their first choice are Psychiatry (9.5%), Ophthalmology (6.9%) and Dermatology (6.9%). The most frequent departments in the first 3 preferences are Psychiatry, Family Medicine, Ophthalmology, Internal Medicine and Emergency.

The first five factors that intern physicians answered as "very influential" on the choice of profession, acceptable working hours (84%), working conditions after specialization (82.9%), job satisfaction (78.4%), violence against healthcare workers (74.3%), residency training conditions (73.6%). In the same order, the frequency of stating that it will affect the choice of specialization is 72.7% in malpractice lawsuits and 25.8% in pandemic conditions (Table 4). The top five reasons for intern physicians with an abroad plan are acceptable working hours (83.6%), high income opportunities (83.3%), job satisfaction (78.5%), violence (77.8%) and working conditions after specialization (75.8%). Compared to the general group, it is seen that violence and high income opportunities are more effective in those who think abroad. Another striking difference is that the effect of Exam for Specialization in Clinical Medicine score is lower in those who have an abroad plan compared to the whole group (55.7%).

## DISCUSSION

In the study, acceptable working hours, post-specialization working conditions and job satisfaction were the topics that intern physicians paid the most attention to in the choice of specialty.

The most preferred specialization branches were Psychiatry, Ophthalmology and Dermatology. Most of the intern physicians are considering specialization, very few of them want to stay as general practitioners and want the primary care, and one-fourth of them want to go abroad after graduation.

89.3% of the participants in our study have an intention to start a residency program to become a specialist in medicine. In studies conducted in Turkey, the desire to become a specialist was ranged from 71.7 to 100% (4,18). In our study, 4.1% of the participants want to continue as a general practitioner, one out of every 10 intern physicians are considering working in primary healthcare institutions. Similar results have been obtained by other studies. (4,5). Nonetheless, no intern physicians who wanted to work in primary care were found in the study of Ergin et al. (8). Parallel to this finding, the proposition of protecting and improving health among the reasons for choosing a specialty was under-marked by the participants. In one study, it was revealed that rural experience increased the preference to be a family physician. To support this interest, it was emphasized that the opportunities for practice in rural areas could be increased during medical education (19). However, in the study of Dörtüoğlu et al., it was determined that most of the participants viewed obligatory service positively due to gaining experience and the need for a physician all over the country (5). In our study, less than one-third of the intern physicians stated that they wanted to work in the deprived area at some point in their professional life. The fact that specialization is more preferred after graduation remains unchanged when all these findings are taken into consideration. It is stated that initiatives to increase job satisfaction and financial opportunities can be effective in promoting work in primary healthcare institutions and deprived areas. In the study by Girasek et al., it was concluded that physicians should be encouraged to work in rural areas. In the focus group meetings held within the scope of working with physicians, it was argued that there should be encouraging practices such as suitable housing, opportunities to work for spouses, schools and nurseries suitable for children and high salaries (20).

In our study, Psychiatry, Ophthalmology and Dermatology were the departments that were most frequently preferred in the first choice. In the study of Ergin et al., Dermatology, Psychiatry, and Cardiology were listed as the most preferred branches among intern physicians (8). In the study conducted by Köksal et al. in 1999, Pediatrics, Internal Diseases and Obstetrics and Gynecology were the most preferred branches (4). It has been seen that basic medical sciences are generally in the last place in the first preference order. It was a remarkable finding that

**Table 3.** Preferences for a residency program in medicine

	1 <sup>st</sup> choice n (%)	2 <sup>nd</sup> choice n (%)	3 <sup>rd</sup> choice n (%)
Psychiatry	33 (9.5)	12 (4.0)	13 (4.0)
Ophthalmology	24 (6.9)	15 (5.1)	12 (3.8)
Dermatology	24 (6.9)	10 (3.4)	7 (2.2)
Cardiology	21 (6.1)	14 (4.7)	9 (2.8)
Aesthetic, Plastic and Reconstructive Surgery	20 (5.8)	10 (3.4)	11 (3.5)
Internal Diseases	17 (4.9)	15 (5.1)	17 (5.5)
Pediatrics	16 (4.6)	14 (4.7)	5 (1.6)
Emergency Medicine	14 (4.0)	17 (5.7)	17 (5.5)
Child Psychiatry	14 (4.0)	10 (3.4)	7 (2.2)
Otorhinolaryngologic Diseases	13 (3.7)	21 (7.1)	12 (3.8)
Obstetrics and Gynecology	13 (3.7)	6 (2.0)	9 (2.8)
Neurology	12 (3.4)	22 (7.4)	13 (4.1)
Family Medicine	11 (3.2)	19 (6.4)	22 (7.1)
Physical Medicine and Rehabilitation	8 (2.3)	13 (4.5)	6 (1.9)
Urology	8 (2.3)	7 (2.4)	9 (2.8)
Radiology	7 (2.0)	8 (2.7)	8 (2.5)
Public Health	6 (1.7)	9 (3.0)	10 (3.2)
Orthopedics and Traumatology	6 (1.7)	7 (2.4)	7 (2.2)
General Surgery	6 (1.7)	6 (2.0)	9 (2.8)
Medical Biochemistry	6 (1.7)	3 (1.0)	7 (2.2)
Nuclear Medicine	6 (1.7)	2 (0.7)	1 (0.3)
Cardiovascular Surgery	5 (1.4)	4 (1.3)	7 (2.2)
Neurosurgery	5 (1.4)	2 (0.7)	5 (1.6)
Sports Medicine	5 (1.4)	2 (0.7)	4 (1.3)
Anesthesiology and Reanimation	4 (1.1)	8 (2.7)	7 (2.2)
Radiation Oncology	4 (1.1)	7 (2.4)	8 (2.5)
Medical Pathology	4 (1.1)	3 (1.0)	5 (1.6)
Air and Space Medicine	4 (1.1)	1 (0.3)	4 (1.3)
Medical Pharmacology	3 (0.9)	1 (0.3)	4 (1.3)
Chest Diseases	2 (0.6)	5 (1.7)	9 (2.8)
Medical Microbiology	2 (0.6)	4 (1.3)	2 (0.6)
Medical Genetics	2 (0.6)	3 (1.0)	4 (1.3)
History of Medicine and Ethics	2 (0.6)	1 (0.3)	3 (0.9)
Physiology	2 (0.6)	1 (0.3)	2 (0.6)
Embryology and Histology	2 (0.6)	1 (0.3)	2 (0.6)
Anatomy	2 (0.6)	0 (0.0)	3 (0.9)
Medical Biology	2 (0.6)	0 (0.0)	3 (0.9)
Biostatistics	2 (0.6)	0 (0.0)	2 (0.6)

**Table 3. Continue** Preferences for a residency program in medicine

	1 <sup>st</sup> choice n (%)	2 <sup>nd</sup> choice n (%)	3 <sup>rd</sup> choice n (%)
Medical Parasitology	2 (0.6)	0 (0.0)	2 (0.6)
Medical Education and Informatics	2 (0.6)	0 (0.0)	2 (0.6)
Thoracic Surgery	1 (0.3)	3 (1.0)	2 (0.6)
Medical Ecology and Hydroclimatology	1 (0.3)	2 (0.7)	1 (0.3)
Forensic Medicine	1 (0.3)	1 (0.3)	5 (1.6)
Underwater and Hyperbaric Medicine	1 (0.3)	1 (0.3)	3 (0.9)
Biophysics	1 (0.3)	1 (0.3)	3 (0.9)
Military Field Medicine	1 (0.3)	1 (0.3)	2 (0.6)
Pediatric Surgery	1 (0.3)	0 (0.0)	6 (1.9)
Infectious Diseases	0 (0.0)	5 (1.7)	6 (1.9)

have resulted from the COVID-19 pandemic. As a matter of fact, in one study, it was emphasized that the COVID-19 pandemic may cause acute stress disorder among students of health and allied sciences and affect their career planning (21). A study among nursing students in South Korea concluded that almost all participants decided to leave the nursing school because of the COVID-19 pandemic (22). In the study of Byrnes et al. 20.2% of medical students stated that the pandemic would affect their choice of specialization. Besides, it is seen that Pediatric and Thoracic Surgery is in the last place among the surgical departments in our study, and this finding is compatible with the Student Selection and Placement Center, Exam for Specialization in Clinical Medicine, 2020 and 2021 Evaluation Reports (10,23).

The main reasons for choosing a specialty in our study are acceptable working hours, post-specialization working conditions, job satisfaction, violence against healthcare workers, conditions of residency education, malpractice lawsuits and high-income opportunities. In other studies, the common reasons for choosing the field of specialization are job satisfaction, financial gain and working conditions (4,5,8,20,24). Unlike other studies, violence against healthcare workers is also among the primary reasons in our study. Current problems also affect the preferences of young physician candidates. According to our findings, acceptable working hours, high income opportunities, job satisfaction and violence are at the top of the specialization preferences of those who want to go abroad. Compared to the general group, it has been seen that violence and high-income opportunities were more

effective in those who think abroad. In our study, one out of every four intern physicians want to go abroad when they graduate. It was announced by the Turkish Medical Association that 1042 physicians went abroad in 2019 and 702 physicians in the first nine months of 2020 (14). The number of foreign physicians is very high, such as 58% in Israel and 43% in New Zealand. (16). For example, 5% of the physicians serving in Germany in 2006 were foreign physicians (25). This rate is rising quickly. 11% of general practitioners in Germany in 2016 are foreign physicians (26). Germany does not take initiatives to fill the shortage of physicians in its country and accepts many physicians from abroad (16). Violence against healthcare workers is also a current problem. Studies have shown that workplace violence has a negative impact on healthcare workers, hospitals and society (27). After such an experience, job performance may decrease (28), job satisfaction may decrease (29) and may negatively affect their own physical and mental health or affect their intention to leave (30). Violence severely disrupts the normal order in hospitals, which can have many negative effects on medical services. It is stated that a total of 15,841 violence incidents occurred in healthcare institutions in 2018 (31).

Although the Exam for Specialization in Clinical Medicine score obtained in some studies is not very effective, it is influential in the choice of specialization. In our study, approximately 70% of the intern physicians stated that the Exam for Specialization in Clinical Medicine score was very influential in their preferences. It should be considered that difficulty of the Exam for Specialization in Clinical Medicine Exam

**Table 4.** Factors affecting the choice of specialization in medicine

Factor	Very effective	Less effective	Ineffective
	n (%)	n (%)	n (%)
Acceptable working hours	215 (84.0)	34 (13.3)	7 (2.7)
Post-specialization working conditions	209 (82.9)	35 (13.9)	8 (3.2)
Job satisfaction	200 (78.4)	42 (16.5)	13 (5.1)
Violence against healthcare workers	185 (74.3)	42 (16.9)	22 (8.8)
Conditions of specialization training	187 (73.6)	55 (21.7)	12 (4.7)
Malpractice lawsuit	184 (72.7)	55 (21.7)	14 (5.5)
High income opportunity	179 (71.0)	64 (25.4)	9 (3.6)
Have skills in the field	176 (71.0)	61 (24.6)	11 (4.4)
Lifestyle flexibility	175 (70.6)	54 (21.8)	19 (7.7)
Necessity/frequency of night shift	177 (69.7)	63 (24.8)	14 (5.5)
Exam for Specialization in Clinical Medicine score/success status	174 (69.0)	48 (19.0)	30 (11.9)
Liking internship or rotation	165 (68.8)	62 (25.1)	20 (8.1)
Possibility of working outside the public	171 (68.7)	61 (24.5)	17 (6.8)
Frequency of calls in emergencies	172 (68.5)	67 (26.7)	12 (4.8)
Possibility to work in the city center	162 (65.6)	65 (26.3)	20 (8.1)
Patient profile	151 (60.6)	78 (31.3)	20 (8.0)
Patient diversity	123 (50.2)	88 (35.9)	34 (13.9)
Contribution to health protection and improvement	115 (46.9)	94 (38.4)	36 (14.7)
Education received at the Faculty of Medicine	114 (46.3)	94 (38.2)	38 (15.4)
Academic expectation	107 (43.1)	100 (40.3)	41 (16.5)
Narrow and focused field of implementation	105 (43.4)	101 (41.7)	36 (14.9)
Time and money requirements for professional development	103 (42.6)	111 (45.9)	28 (11.6)
Seeing the treatment result quickly	102 (41.1)	101 (40.7)	45 (18.1)
Perceived status by society	80 (32.5)	98 (39.8)	68 (27.6)
Perceived status among colleagues	76 (31.0)	102 (41.6)	67 (27.3)
Condition of COVID-19 pandemic	63 (25.8)	110 (45.1)	71 (29.1)
Influence of the faculty of medicine teachers	35 (14.1)	102 (41.1)	111 (44.8)
Family request	24 (9.8)	65 (26.5)	156 (63.7)
Friend referral	6 (2.5)	69 (28.3)	169 (69.3)

may be one of the driving factors, especially in choosing abroad. On the other hand, 52.8% of the participants in our study stated that studying for Exam for Specialization in Clinical Medicine negatively affects medical education. This finding is supported by other studies (5,32). In our study, the reason why

one out of every five intern physicians chose the faculty of medicine was the job guarantee and economic reasons. The first reason was stated as being interested in medicine. Similar results were obtained in the studies carried out (5,19,33,34).



The main limitation of our study is that it is limited to one medical faculty and cannot be generalized to all medical faculty students. Data collection via google forms is another limitation of the study. It is not known under what conditions the participants filled out the questionnaires. However, its findings are important in terms of revealing the effects of changing current conditions on career choice.

## CONCLUSION

As a result, specialization is the most important career option for medical students after graduation. Primary care is preferred by a small number of intern physicians. It is seen that acceptable working hours, post-specialization working conditions, job satisfaction, violence against healthcare workers, conditions of residency training, malpractice lawsuits and high-income opportunities are effective in the choosing of specialization. Considering the physician shortage in our country, the factors effective in career planning after graduation should be taken into account and arrangements should be made for these factors. In particular, the regulations regarding violence and financial opportunities for the qualified workforce to stay in a dormitory should be prioritized. Qualitative research should be conducted to learn in-depth information on the subject.

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