



## AN EXAMINATION OF THE ATTITUDES AND BEHAVIORS OF TURKISH DOCTORS AND MEDICAL STUDENTS TOWARDS EMIGRATION

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
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**Abstract:** The aim of this study was to investigate the attitudes and behaviours of doctors and medical students towards brain drain. This study was executed in Afyonkarahisar Health Sciences University (AFSU) between 14.11.2022 - 31.12.2022. It was conducted among 1st-6th grade students of the faculty of medicine and doctors of AFSU faculty of medicine. The sample of the study consisted of 691 students and 110 doctors. Data analysis was done in the SPSS 26.0 statistical package program. Descriptive statistics and Chi-square analysis were used. There were 784 (97.9%) Turkish citizens and 17 (2.1%) foreign nationals in the study. It is seen that 491 (61.3%) of the participants were female and 691 (86.3%) were students. When the opinions of the participants about working abroad were analyzed, 429 (53.6%) stated that they wanted to work abroad, 123 (15.4%) stated that they did not want to work abroad, and 249 (31.1%) stated that they were undecided. In response to the question "Would you consider returning if you want to practice medicine abroad?" 180 (42%) said yes, 114 (26.6%) said no, and 135 (31.5%) were undecided. Do you think language exams are an obstacle for you to go abroad? To the question "Do you think language exams prevent you from going abroad?", 315(39%) of the participants answered yes, 388 (49%) said no, while 98 (12%) stated that they were undecided. Higher income, better behavior (respect, love, understanding ...), insecurity are among the reasons why doctors want to go abroad. Other reasons include working conditions, technologically equipped health systems abroad, traveling opportunities, and career and further education opportunities. It has been observed that the rate of those who want to practice medicine abroad and those who want to return when they go abroad is high. It was determined that the foreign language problem is an important obstacle to brain drain. It has been understood that if the working fees in Türkiye increase, both students and doctors may give up going abroad.

**Key words:** Brain drain, Doctor, Student, Health, Migration, Human resources

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### 1. Introduction

Migration is a sociologically complex concept that affects both the migrant and the migrated places/cities/villages from the moment it emerges. Migration can occur for many reasons. Brain drain constitutes a large part of migration. The migration of people who have received higher education or who have advanced in their profession, who have more creative and research power, to economically developed countries to work or settle is called brain drain (Atılgan, 1986). While the development of underdeveloped/developing countries, which lose their qualified manpower with limited resources for a long time due to brain drain, slows down further, developed countries accelerate their development with the qualified manpower they have and

increase their advantages in global competition (Babataş, 2007). The concept of brain drain was first used in history for individuals migrating from Europe to America (Bakırtaş and Kandemir, 2010). It is seen that brain drain policies in developed countries are particularly employment-oriented.

The main points that draw attention are sector-based, employer-oriented and capital-oriented (Başaran, 1972). Brain drain has an effect that decreases the capital of the emigrating countries and increases the emigrating country socially and economically (Elbek et al., 2012). It has been observed in studies that the reason for migration in international movements is mostly in the form of brain drain and the highest working group consists of healthcare professionals (Emine et al., 2018;



Gökbayrak, 2008). Health services have a very complex structure. In order for a health system to achieve its main purpose, that is, to produce health, it must have sufficient number and quality of health manpower capacity. The development of this capacity is possible by employing the appropriate health workers at the right time and in the right place. Creating this whole in the most efficient and effective way and ensuring the continuity of the system is possible with the health policies to be determined by the countries. Migration is defined as the movement of individuals or groups within the social structure from one place to another for economic, cultural and social reasons. Migration, which is the cause of many problems for Türkiye, has an undeniable impact on the health sector and is considered as an important social phenomenon affecting the health of individuals (Güngör, 2004; Kolb, 2010; Gümüş, 2015; Korcu, 2022).

The key point of the health sector can be considered important in terms of the health capability of doctors (treating, protecting and improving the health of patients); it is essential to have sufficient number and quality of facilities and motivation. If these possibilities are not fulfilled, migration is inevitable. Although it is an important issue, the importance of migration for a country or a nation depends on the quality of the labour force. While the departure of unskilled and non-essential labour force from the country sometimes provides relief to governments in terms of employment, it is not desirable for highly skilled labour force to leave the country (Kurtuluş, 1988). Migration of health workers means that highly skilled labour force leaves the country by closing the education gap. It requires a huge investment (Özkan and Hamzaoglu, 2008). Adequate and qualified labour force is one of the cornerstones of the health system. Among the main reasons for the migration of doctors; higher income, better treatment, insecure working conditions, better career, further education opportunities, travel opportunities (Kolb, 2010; Özveri et al., 2018; Korcu, 2022). In recent years, the severe working conditions brought about by the COVID-19 pandemic have caused doctors' salaries and payments to become increasingly inadequate (Panescu, 2004).

This situation is also closely followed by medical students. In a study, it was shown that exposure to news about unhealthy behaviours towards doctors in the media decreased the motivation of students and negatively affected their perspectives on the profession and patients (Tansel and Güngör, 2004). There are many studies on brain drain in the literature. Some of them are Bakırtaş and Kandemir (2010), Başaran (Başaran, 1972), Yılmaz (2019), Tansel and Güngör (2004), Kurtuluş (1988). In this article, the attitudes and behaviours of students graduating from medical faculties and working doctors towards brain drain are investigated. The study is analysed in detail with all sub-dimensions. At the same time, the reasons underlying the idea of working abroad are investigated by asking questions with positive and negative statements to both those who accept the idea of

working abroad and those who do not.

## 2. Materials and Methods

This study was carried out between 14.11.2022 - 31.12.2022 between 14.11.2022 and 31.12.2022 among medical school students (1st-6th grade) and doctors of AFSU Faculty of Medicine. The questionnaire form developed by the researchers as a result of the literature review was used as a data collection tool. Informed consent is obtained at the beginning of the survey. SPSS 26.0 statistical package programme was used to analyze the data. Descriptive statistics were obtained and Chi-square analysis was performed. Statistically significant  $P < 0.05$  value is accepted in all tests. The sample size of the questionnaire was calculated using G. Power 3.1.9.4 programme. Considering  $\alpha = 0.05$ , Power = 0.95 and effect size 0.5 in the calculations, 691 students and 110 doctors were completed.

## 3. Results

When the demographic characteristics of the participants are examined, there are 784 (97.9%) citizens of the Republic of Türkiye and 17 (2.1%) foreign nationals. Data showed that 491 (61.3%) of the participants are women and 691 (86.3%) are students. The high number of students paved the way for the answers of marital status single (91.9%), married (7.2%) and number of children 0 (92.9%). When the titles of doctors are examined, the majority of the participants are 70 (63.6%) research assistants and 20 (18.2%) doctors. Considering the working period, it is determined that there are 57 (51.8%) working period of 5 years, 18 (16.4%) working period of 6-10 years and 21 or more years. 23.6% of the students are 1st grade, 20.1% are 3rd grade, 11.2% are 4th grade. 7.2% of the participants are married and 3% have 2 children (Figure 1).

When our participants' opinions about considering working abroad were examined, 429 (54%) stated that they wanted to work, 123 (15%) did not want to work, and 249 (31%) were undecided. When asked whether they would consider returning if they wanted to practice medicine abroad, 180 (42%) said yes, 114 (27%) said no, and 135 (31%) were undecided. To the question "Do you think language exams prevent you from going abroad?", 315 (39%) of the participants answered yes, 388 (49%) said no, while 98 (12%) stated that they were undecided. To the question of whether the socio-economic characteristics of the place where you work/will work affects your decision to go abroad, 628 (79%) of the participants answered yes, 99 (12%) answered no, and 74 (9%) answered (Figure 2).

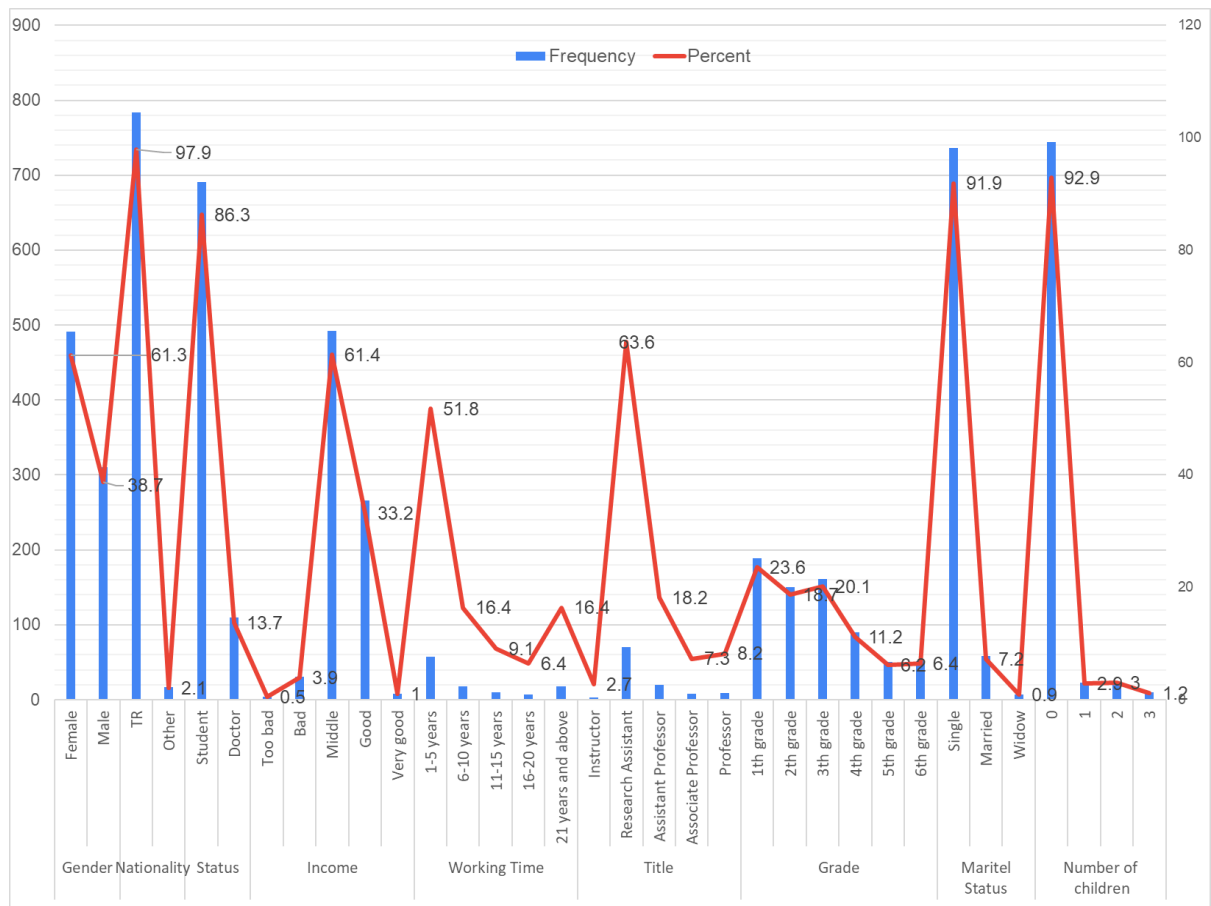


Figure 1. Demographic characteristics of the participants.

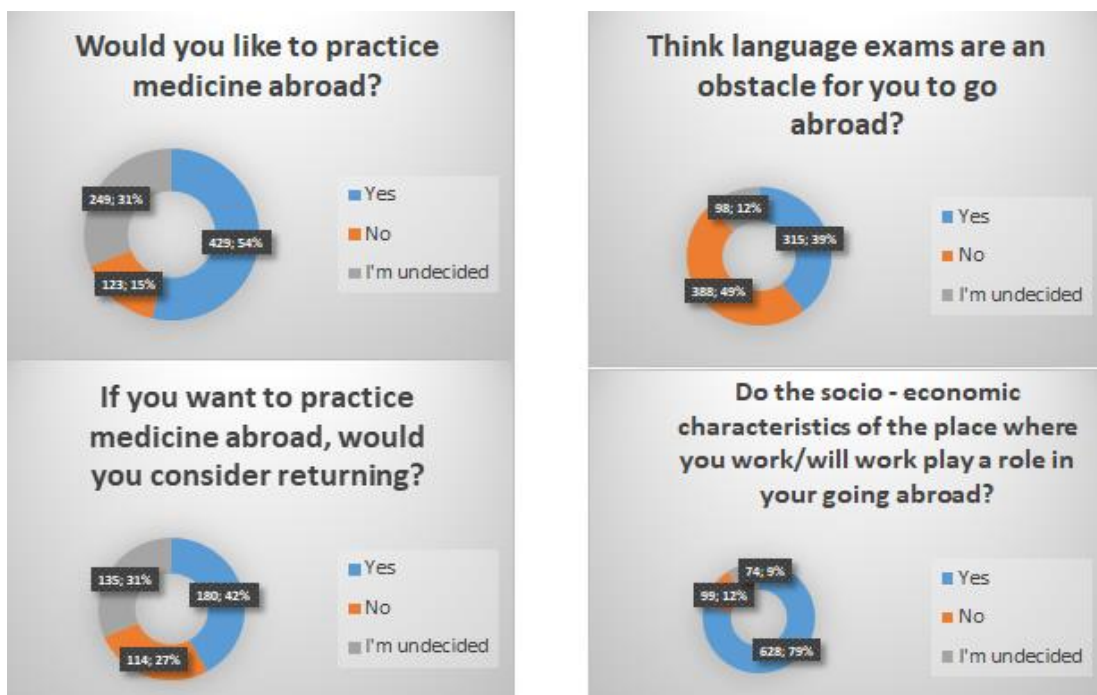


Figure 2. Some thoughts of the participants about the idea of abroad.

“Do you want to practice medicine abroad?” When the participants who answered yes to the question were examined, the variables with the highest average were as follows. I would like to go for career and further education opportunities (4.3683±0.9665), I would like to

go to be treated better (Respect, love, understanding..) (4.4336±0.9340), My working wage in Türkiye It does not change my mind about working abroad (3.0326±1.1102), I want to go because I think the vocational training period is not enough for me to

become a professional (3.0839 ±1.2427) (Figure 3).

For those who answered yes to the question "Would you like to practice medicine abroad?" When the descriptive statistics including negative statements are examined, it is seen that the variables with the highest mean ; As a doctor, I do not want to go because I want to serve my country (2.9767±1.1436), I do not want to go because I do not want to be away from my family (2.8718±1.1957), I don't want to go because I don't want to disturb my established order (2.4965± 1.1553) It can be seen that expressions such as (Figure 4).

"Do you want to practice medicine abroad" in Figure 5;

When the descriptive statistics including negative statements are examined, it is seen that the averages are generally high and their answers are consistent with not wanting to go abroad. The variable with the highest mean is I do not want to go because I want to serve my country as a doctor (4.2033 ± 1.0555) (Figure 5).

Would you like to practice medicine abroad? When the answers given to the question are examined according to demographic variables, we see differences according to all variables. Gender, status as a medical student or doctor, nationality, title, class, marital status, number of children, and income status vary (P<0.05) (Table 1).

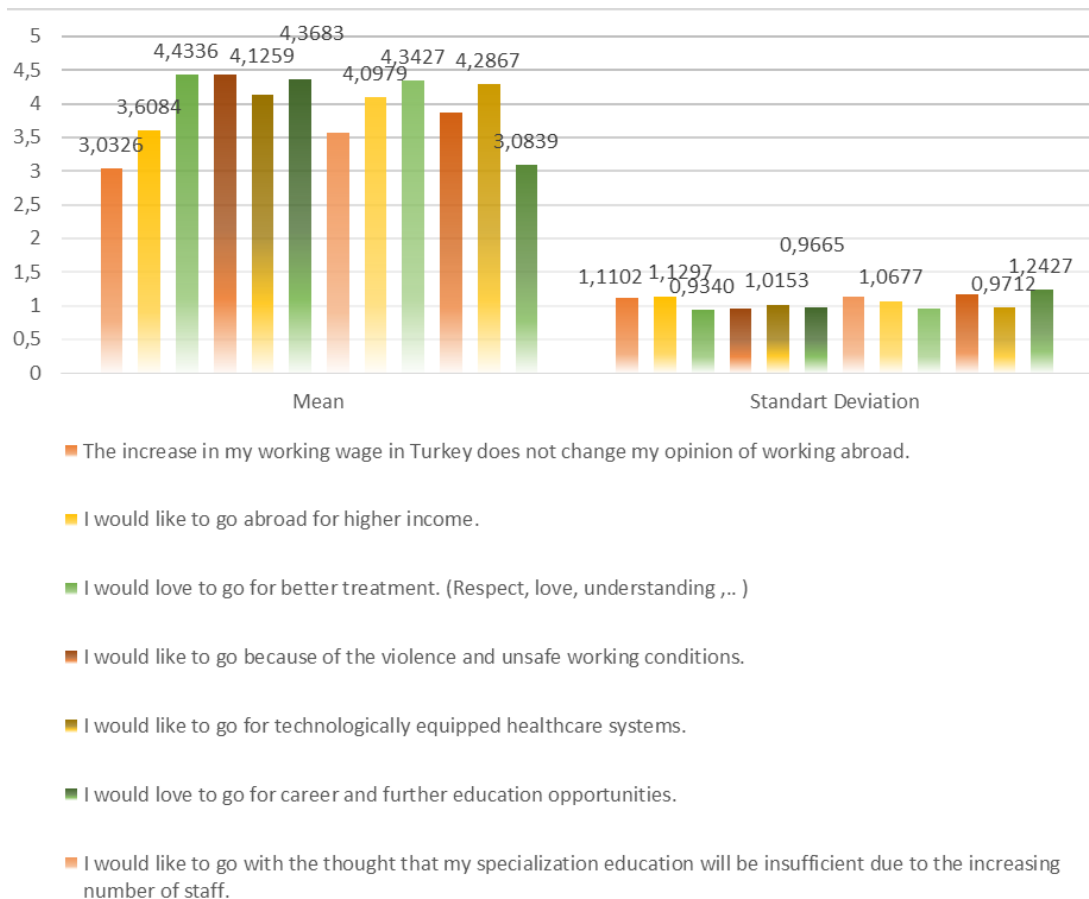


Figure 3. Descriptive statistics for those who answered yes to the question "Would you like to practise medicine abroad?"

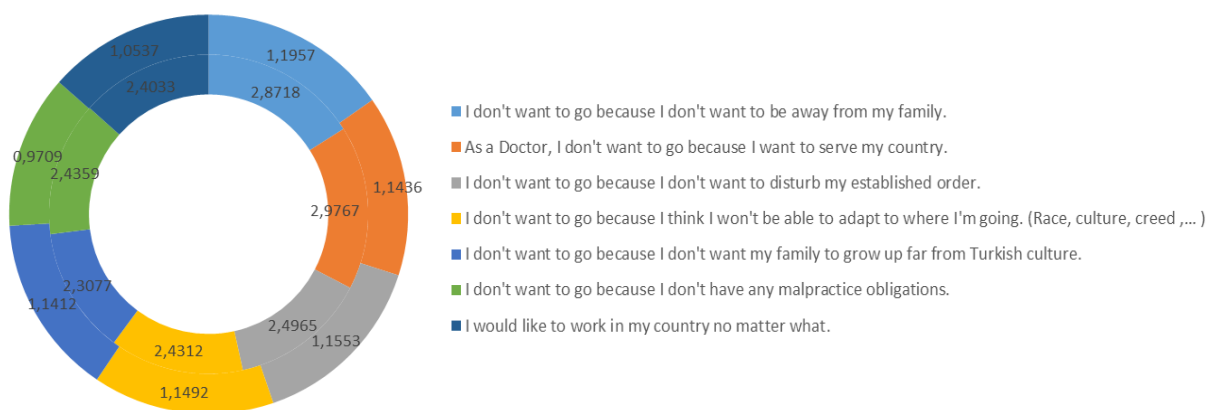
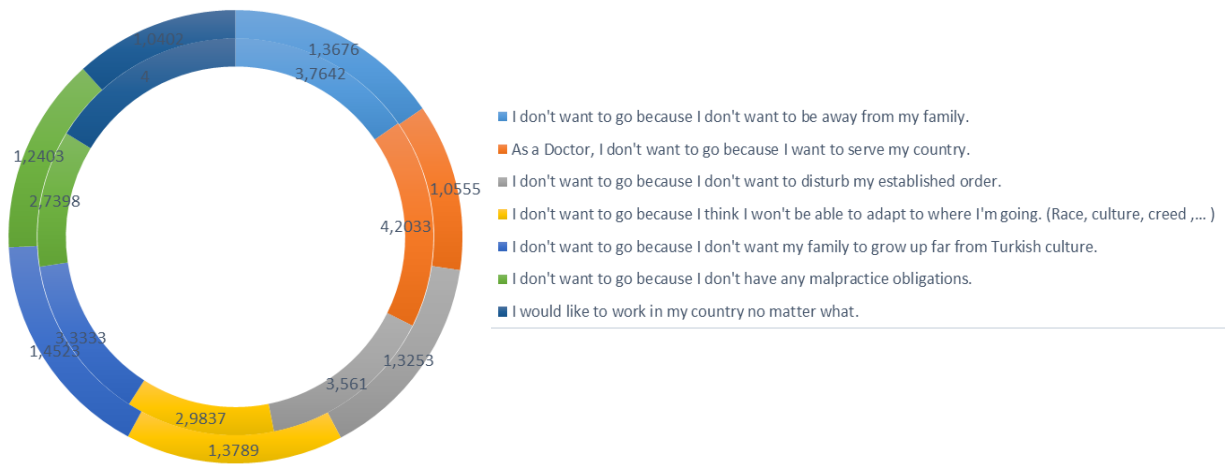


Figure 4. Descriptive statistics including negative statements of those who answered yes to the question "Would you like to practice medicine abroad?"



**Figure 5.** Would you like to practice medicine abroad? Descriptive statistics including negative statements for those who said no to the question.

**Table 1:** Would you like to practice medicine abroad? comparison of expression with demographic variables

Variables	Yes n(%)	No n (%)	Undecided n(%)	P value
Female	251 (51.1)	69 (14.1)	171 (34.8)	
Male	178 (57.4)	54 (17.4)	78 (25.2)	0.014*
Student	385 (55.7)	85 (12.3)	221 (32.0)	
Doctor	44 (40)	38 (34.5)	28 (25.5)	<0.000*
TR	416 (53.1)	122 (15.6)	246 (31.4)	
Other	13 (76.5)	1 (5.9)	3 (17.6)	0.016*
Instructor	2 (66.7)	0 (0.0)	1 (33.3)	
Research Asst .	32 (45.7)	19 (27.1)	19 (27.1)	
Assist.Prof	7 (35)	7 (35)	6 (30)	0.035*
Assoc.Prof	2 (25)	4 (50)	2 (25)	
Prof.	1 (11.1)	88.9	0 (0)	
1th grade	106 (56.1)	19 (10.1)	64 (33.9)	
2th grade	91 (60.7)	12 (8)	47 (31.3)	
3th grade	99 (61.5)	19 (11.8)	43 (26.7)	0.027*
4th grade	45 (50.6)	19 (21.3)	25 (28.1)	
5th grade	22 (44)	8 (16)	20 (40)	
6th grade	21 (41.2)	8 (15.7)	22 (43.1)	
Single	406 (55.2)	95 (12.9)	235 (31.9)	
Married	19 (32.8)	27 (46.6)	12 (20.7)	<0.000*
Widow	4 (57.1)	1 (14.3)	2 (28.6)	
0	406 (54.6)	100 (13.4)	238 (32)	
1	10 (43.5)	10 (43.5)	3 (13)	<0.000*
2	8 (33.3)	11 (45.8)	5 (20.8)	
3	5 (50)	2 (20)	3 (30)	
Too bad	3 (75)	0 (0)	1 (25)	
Bad	16 (51.6)	2 (6.5)	13 (41.9)	0.033*
Middle	259 (52.6)	65 (13.2)	168 (34.1)	
Good	145 (54.5)	55 (20.7)	66 (24.8)	
Very good	6 (75)	1 (12.5)	1 (12.5)	

\*P<0.05 statistical significant

If you want to practice medicine abroad, would you consider returning? The answers to the question were examined according to demographic variables; It was determined that there was a difference according to the status of being a medical student or doctor and nationality variables (P<0.05). Doctors' gender and title

variables do not differ (P>0.05) It was determined that the student's class status and the income of the participants or their family differed according to the variables (P<0.05). Marital status and number of children variables do not show any difference (P>0.05) (Table 2). The socio-economic characteristics of the place where

you work/will work play a role in your going abroad? When the answers given to the question are examined; it has been determined that it varies according to the variables of being a medical student or a Doctor and

income status (P<0.05). Gender and nationality variables did not show any difference in the answers given to this question (P>0.05) (Table 3).

**Table 2:** If you want to practice medicine abroad, would you consider returning? comparison of expression with demographic variables

Variables	Yes n(%)	No n (%)	Undecided n(%)	P value
Female	99(39.4)	64(25.5)	88(35.1)	0.161
Male	81(45.5)	50(28.1)	47(26.4)	
TR	179(43.0)	110(26.4)	127(30.5)	0.021*
Other	1(7.7)	4(30.8)	8(61.5)	
Student	171(44.4)	93(24.2)	121(31.4)	0.001*
Doctor	9(20.5)	21(47.7)	14(31.8)	
Instructor	1(50.0)	0(0.0)	1(50.0)	0.417
Research Asst .	6(14.6)	16(39.0)	19(46.3)	
Assist.Prof	1(10.0)	6(60.0)	3(30.0)	
Assoc.Prof	1(50.0)	1(50.0)	0(0.0)	
Prof.	1(50.0)	1(50.0)	0(0.0)	
1th grade	50(47.2)	28(26.4)	28(26.4)	0.001*
2th grade	48(52.7)	8(8.8)	35(38.5)	
3th grade	46(46.5)	24(24.2)	29(29.3)	
4th grade	15(33.3)	13(28.9)	17(37.8)	
5th grade	9(40.9)	7(31.8)	6(27.3)	
6th grade	3(14.3)	12(57.1)	6(28.6)	
Single	2(7.4)	13(48.1)	12(44.4)	0.145
Married	6(23.1)	9(34.6)	11(42.3)	
Widow	2(50.0)	2(50.0)	0(0.0)	
0	4(11.8)	15(44.1)	15(44.1)	0.579
1	3(25.0)	4(33.3)	5(41.7)	
2	2(22.2)	5(55.6)	2(22.2)	
3	1(50.0)	0(0.0)	1(50.0)	
Too bad	0(0.0)	1(33.3)	2(66.7)	0.044*
Bad	6(37.5)	9(56.3)	1(6.3)	
Middle	112(43.2)	72(27.8)	75(29.0)	
Good	60(41.4)	31(21.4)	54(37.2)	
Very good	2(33.3)	1(16.7)	3(50.0)	

\*P<0.05 statistical significant.

**Table 3:** Do the socio-economic characteristics of the place where you work/will work play a role in your going abroad? comparison of expression with demographic variables

Variables	Yes n (%)	No n (%)	Undecided n (%)	P value
Female	394(80.2)	50(10.2)	47(9.6)	0.062
Male	234(75.5)	49(15.8)	27(8.7)	
TR	616(78.6)	94(12.0)	74(9.4)	0.054
Other	12(70.6)	5(29.4)	0(0.0)	
Student	561(81.2)	66(9.6)	64(9.3)	<0.001*
Doctor	67(60.9)	33(30.0)	10(9.1)	
Too bad	3(75.0)	1(25.0)	0(0.0)	0.01*
Bad	25(80.6)	4(12.9)	2(6.5)	
Middle	400(81.3)	43(8.7)	49(10.0)	
Good	196(73.7)	48(18.0)	22(8.3)	
Very good	4(50.0)	3(37.5)	1(12.5)	

\*P<0.05 statistical significant.

#### 4. Discussion

Karatuzla (2024), in his article examining the tendency of health professionals in Türkiye to migrate abroad, analyzes the general reasons for this migration and the reasons behind it. Gençbaş et al. (2024) reported that the majority of nursing students seek better study and work opportunities abroad, and the main factors influencing students' decisions include economic reasons, career development opportunities and academic motivation. Yiğit et al. (2024) found that nursing students have a high tendency to go abroad, but academic motivation and self-efficacy levels affect this tendency. It was stated that students with high academic motivation and self-efficacy beliefs had a more positive view of pursuing a career in the country. Similar findings were observed in our study. The high number of participants caused the status of being single and childless to come to the forefront. When the income status was analyzed, it was determined that the middle-good class was predominant among the participants and there was no financial deficit, but it is thought that this cannot be used as a definitive parameter as it shows the situation of the students' families. The study revealed that a small number of participants wanted to stay in the country, while the majority wanted to work abroad. However, it was determined that almost half of those who wanted to go abroad responded positively about returning to the country, although they were undecided about returning home. Although almost half of the participants did not see the language barrier as an insurmountable obstacle, they revealed that they were confident in this regard. Nevertheless, it was determined that the number of those who considered this as an obstacle was high. Based on the correlation in the yes rate to the question "Would you consider practicing medicine abroad?", we can conclude that this issue causes indecision but does not prevent going abroad.

Almost all of the participants attach importance to the socio-economic characteristics of the place where they will work, and this was found to be one of the most influential criteria in choosing the place of work. Doctors who want to work abroad are hesitant to go abroad if the wages in Türkiye increase. One of the reasons why doctors want to go abroad is higher income. In addition, the idea of being treated better (respect, love, understanding, etc.) also makes practicing abroad attractive. Insecure working conditions are also among the reasons for wanting to go. Another reason is the technologically equipped health systems abroad. Career and further education opportunities are among the reasons for doctors who want to go abroad. Doctors who think that specialty training will be insufficient with the increasing number of personnel want to go abroad with this in mind. A large proportion of those who want to go abroad also want to go abroad for travel opportunities. Those who want to go abroad think that they can offer their families a quality life abroad. Doctors are hesitant to go abroad because they think that the duration of their

professional education is not enough to become a professional.

For doctors who want to go abroad, the thought of serving their country is not a deterrent to going abroad. At the same time, it is stated that disrupting their order here is not a reason for doctors not to go abroad. Doctors think that they can adapt to the places they will go in terms of race, culture and belief and that they can establish order abroad or keep up with the order there. They stated that an increase in salaries would change their minds, but they do not want to go abroad for higher income. The reasons for not wanting to go abroad have nothing to do with career training opportunities, increasing staff numbers, travel opportunities, providing a better future for the family, political and economic instability. Those who disagree with the question "Would you like to practice medicine abroad?" state that they do not want to go because they do not want to be away from their families and they want to serve their country as doctors. At the same time, it is clear from the survey results that they do not want to disrupt their established order.

However, they do not think that they will not be able to adapt if they go. While students mostly want to practice abroad, the proportion of doctors who want to practice abroad is very close to the proportion of those who do not want to practice abroad. One of the reasons for this is that doctors have an established routine and most of them are married and have children. Among non-Turkish citizens, 76.5% would like to practice medicine abroad. Those who are foreign nationals may have thought that they would not have difficulties in this regard since they have studied/worked outside their home country. 67% of doctors with more than 21 years of experience do not want to work abroad. At the same time, 89% of professors did not want to work abroad. It can be thought that they do not want to work as a doctor abroad because they have served the country for many years and their retirement rights have come. The proportion of students who wanted to work as a doctor abroad was mostly in the 1st, 2nd and 3rd grades. The reason for this may be the increasing news on violence against doctors and the gradual decrease in the prestige of doctors in the society. The rate of practicing medicine abroad is higher for single and childless respondents than for married and childless respondents. It has been found that having an established order, being married and having children affect doctors' unwillingness to work abroad. In terms of men and women, 35.1% of women are undecided about returning to the country. While 43% of Turkish citizens wanted to return, 61.5% of non-Turkish citizens were undecided. It can be said that the reason for this is the love for the country and the desire of Turkish citizens to serve their country. In this case, it can be said that married and separated people are more likely to consider returning than single and married people. Those with 3 children are the most likely group to consider returning, while those without children are the least likely group. In

addition, it can be said from the data that those with very poor financial situation do not want to return if they work as a doctor abroad.

### 5. Conclusion

Immigration, which has been seen as a problem throughout history, is a phenomenon that significantly affects people, cities, countries and everything it touches in all societies. In this phenomenon, the concept of brain drain has emerged with the development of science and technology. Brain drain generally occurs from developing countries to developed countries. Among the reasons for migration: economic, sociological, cultural, political and many other reasons. As in other countries, with the pandemic, there was a significant amount of migration in the healthcare field, especially doctors, in Türkiye. This article examines the reasons why medical students and currently working doctors want or do not want to work abroad. As a result, it was seen that the rate of those who wanted to practice medicine abroad and those who planned to return when they went was high. Participants see the language score as an obstacle for them. Higher income, better treatment (respect, love, understanding,...), insecurity is one of the reasons why doctors want to go abroad. These include working conditions, technologically equipped healthcare systems abroad, career and advanced education opportunities. As the number of personnel increases, doctors think that their specialist training will be insufficient, and with this in mind, doctors want to go abroad. Most of those who want to go abroad also want to go abroad for travel opportunities. Those who want to go abroad think that they can offer their families a quality life abroad. Moreover; When the responses to the statement "I want to serve my country no matter what" are examined, it is seen that the rate of agreement with this statement is high among those who want to go abroad. This may be the idea that doctors and doctor candidates do not want to leave their country even if they want to go abroad. In conclusion; Today, increasing welfare is one of the most important factors that will stop the migration of educated people. Economic, social, cultural etc. If more precautions are taken in these areas, talented people will not want to go abroad and will be encouraged to return.

In light of the findings of this study, it is recommended that health workforce planning should be strengthened, working conditions and salaries should be improved, career development and family support should be provided to reduce the tendency of doctors in Türkiye to migrate abroad. It is also emphasized that communication and cooperation between health institutions, universities and sector stakeholders should be increased. These measures aim to increase doctors' motivation to stay in the country.

### Recommendations

"In light of the findings of this study conducted on the tendency of doctors in the healthcare sector in Türkiye to

migrate abroad, the following recommendations are presented to authorities and relevant stakeholders:

- Strengthen Healthcare Workforce Planning,
- Healthcare workforce planning should be based on current data to determine doctor needs and specialization areas,
- Long-term plans should be made considering doctors' educational processes, post-graduation employment expectations, and specialization training,
- Improve Working Conditions and Employment Terms,
- Improving working conditions and salaries for doctors can help reduce the inclination to migrate abroad,
- Providing job security and career opportunities can encourage doctors to stay in the country,
- Support Career Development: Offering opportunities for doctors to enhance their careers locally can be an effective retention strategy. Advanced training, specialization opportunities, and research prospects should be provided,
- Family and Social Support: Establishing social support programs for doctors' families can contribute to their motivation to stay. Offering the possibility of a better life abroad for doctors and their families can increase their desire to remain in the country,
- Nationwide Communication and Collaboration: Strengthening communication and collaboration among healthcare institutions, universities, and healthcare sector stakeholders is essential,
- Ensuring the participation of all parties is crucial for solving issues effectively. Broader Social and Economic Improvements,
- Economic, social, and cultural improvements can boost doctors' desire to stay in the country,
- Enhancing public trust in healthcare services can influence doctors' motivation to remain local.

These recommendations reflect measures that can be taken to reduce the tendency of doctors in the healthcare sector to migrate abroad and enhance their motivation to stay in the country. They can serve as a guide for policymakers, healthcare administrators, and other relevant stakeholders.



**Author Contributions**

The percentage of the author(s) contributions is presented below. All authors reviewed and approved the final version of the manuscript.

	G.G.	M.E.	Y.Ç.	İ.H.Ö.	D.K.	E.K.	D.K.
C	40	10	10	10	10	10	10
D	100						
S		50	50				
DCP			25	25		25	25
DAI	10	10	10	10	40	10	10
L	40	10	10	10	10	10	10
W	40	10	10	10	10	10	10
CR	40	10	10	10	10	10	10
SR	40	10	10	10	10	10	10
PM	40	10	10	10	10	10	10
FA	40	10	10	10	10	10	10

C= concept, D= design, S= supervision, DCP= data collection and/or processing, DAI= data analysis and/or interpretation, L= literature search, W= writing, CR= critical review, SR= submission and revision, PM= project management, FA= funding acquisition.

**Conflict of Interest**

The authors declared that there is no conflict of interest.

**Ethical Approval/Informed Consent**

Ethics committee approval was obtained for this study with the decision of Afyonkarahisar Health Sciences University Medical Ethics Committee (approval date: November 04, 2021, protocol code: 2022/14). The research was conducted in accordance with the Principles of the Declaration of Helsinki.

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