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Evaluation of Doctors' Predictions of Working Abroad and Their Attitudes Towards Brain Drain: A Web-Based Research

Doktorların Yurtdışında Çalışma Öngörülerinin ve Beyin Göçüne Yönelik Tutumlarının Değerlendirilmesi: Web Tabanlı Bir Araştırma

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ABSTRACT

Objective: The shortage of health workers and the uneven distribution of health workers are a major problem in the provision of health services. This problem becomes more important as health professionals migrate to other countries. Therefore, this study aimed to determine the desire of physicians working in different institutions and with different statuses in Türkiye to work abroad and the factors that may cause this desire.

Methods: In this cross-sectional study, data were collected online to facilitate access to physicians working in different institutions. A 21-question survey form and a 16-question "Brain Drain Attitude Scale" were used to collect data.

Results: Three hundred and fifty-one doctors and trainee doctors with a mean age of 31.12±7.56 years, 55.8% of whom were female, were included in the study. It was found that 60.4% of the participants were considering working abroad, and 67.0% of those who were considering it had researched and/or taken an initiative in this area. Scale scores were significantly higher in those who believed that patient burden and professional responsibility abroad would be lower and that the prestige of medicine abroad would be higher than in those who did not ($p<0.05$).

Conclusion: This study found that more than half of doctors and medical students wanted to work abroad. The reasons given by those who have a positive attitude towards the brain drain indicate the need to review the health services in the country and to address this issue in a multifaceted way.

Keywords: Emigration, health workforce, international migration, physicians, Türkiye

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ÖZ

Amaç: Sağlık çalışanlarının yetersizliği ve sağlık çalışanlarının dengesiz dağılımı, sağlık hizmetlerinin sunumunda önemli bir sorundur. Bu sorun, sağlık çalışanlarının başka ülkelere göç etmesiyle daha da önemli hale gelmektedir. Bu nedenle, bu çalışmada Türkiye'de farklı kurumlarda ve farklı statülerde çalışan hekimlerin yurtdışında çalışma isteklerinin ve bu isteğe neden olabilecek faktörlerin belirlenmesi amaçlanmıştır.

Yöntem: Bu kesitsel çalışmada, farklı kurumlarda çalışan hekimlere erişimi kolaylaştırmak için veriler çevrimiçi olarak toplanmıştır. Veri toplamak için 21 soruluk bir anket formu ve 16 soruluk "Beyin Göçüne Yönelik Tutum Ölçeği" kullanılmıştır.

Bulgular: Çalışmaya yaş ortalaması 31,12±7,56 olan ve %55,8'i kadın olan 351 doktor ve stajyer doktor dahil edilmiştir. Katılımcıların %60,4'ünün yurtdışında çalışmayı düşündüğü ve düşünenlerin %67,0'sının bu alanda araştırma yaptığı ve/veya girişimde bulunduğu tespit edilmiştir. Yurtdışında hasta yükünün ve

mesleki sorumluluğun daha az olacağına ve yurtdışında hekimliğin prestijinin daha yüksek olacağına inananların ölçek puanları, inanmayanlara göre anlamlı olarak daha yüksekti (p<0,05).

Sonuç: Bu çalışma, doktorların ve tıp öğrencilerinin yarısından fazlasının yurtdışında çalışmak istediğini ortaya koymuştur. Beyin göçüne karşı olumlu bir tutuma sahip olanların belirttiği nedenler, ülkedeki sağlık hizmetlerinin gözden geçirilmesi gerektiğine işaret etmektedir.

Anahtar Kelimeler: Göç, sağlık işgücü, uluslararası göç, hekimler, Türkiye

INTRODUCTION

Brain drain is defined as "the departure of highly skilled professionals, scientists and experts from their own country to settle and work in another developed country".[1] This phenomenon has become a major global issue, with profound implications for both the sending and receiving countries. Brain drain results from a combination of educational, economic, political, and socio-cultural factors. Pull factors, such as better career opportunities, higher salaries, access to cutting-edge research and development, and superior educational environments, attract professionals to more developed nations. Conversely, push factors, including political instability, limited career development, economic insecurity, and unsafe working conditions in the home countries, exacerbate this migration trend.[2,3]

Globally, the World Health Organization (WHO) has highlighted brain drain as a persistent and growing problem, particularly in the health sector. The COVID-19 pandemic has exacerbated the migration of healthcare professionals, driven by increasing global demand for skilled personnel, disparities in remuneration and increased workplace pressures in low-income countries.[4] It is well known that the world does not have enough doctors and health workers; and that they are poorly distributed, a situation that threatens the sustainability of health systems.[5] WHO estimates that there will be a shortage of 10.2 million health workers by 2030, mostly in low-and lower-middle-income countries.[4] It has been recognised for years that the migration of health workers from low-and middle-income countries to high-income countries is a global public health challenge.[6] The migration of health workers both to different regions within their own countries and to different countries is a situation of concern because of its long-term impact on the countries of origin.[7]

International mobility of health workers and migration from countries with shortages can weaken health systems and increase inequalities if not properly managed.[4] It is seen as an important socio-economic dynamic that affects the flow of knowledge and talent around the world. Developing countries in particular may face shortages of skilled health workers. This can have a negative impact on the quality of and access to health care. It has been argued that brain drain should be considered as a global health workforce problem and that solutions should be sought through international cooperation and policy.[8-10]

In Türkiye, physician brain drain has emerged as a growing challenge. Despite the country's growing need for health professionals, dissatisfaction with working conditions, limited career opportunities, low salaries, and workplace violence have led many doctors to seek opportunities abroad.[11] According to recent studies, more than half of medical students and young doctors in Türkiye express interest in emigrating, underscoring the urgency of addressing the underlying causes.[12-14] Such trends not only exacerbate existing workforce shortages but also hinder the country's ability to meet the growing demand for quality health services.

Given the global and national significance of brain drain, this study aims to explore the attitudes of physicians and prospective physicians in Türkiye towards migration. The study seeks to examine the demographic and work-life factors influencing their perspectives, as well as identify push and pull factors that drive their migration intentions. By addressing these gaps, this research intends to provide actionable insights for policymakers to develop retention strategies, improve working conditions, and formulate international collaboration policies to mitigate brain drain.

The current study builds upon existing literature by focusing on a diverse group of physicians and trainees, offering a nuanced understanding of brain drain in the Turkish healthcare sector. Additionally, it explores how international trends and local factors intersect to shape migration intentions, thus providing a comprehensive framework for addressing this pressing issue. Through targeted interventions and policy recommendations, the findings aim to the global discourse on healthcare workforce sustainability.

METHODS

Study Design and Participants

The population of this cross-sectional study consisted of doctors and residents from different institutions across Türkiye, including public hospitals, private hospitals, medical schools and family health centres. The sample size of the study was calculated using the G-power program with a 95% confidence interval, 5% margin of error, 80% power, unknown prevalence rate (50%), and a minimum sample

size of 334. Inclusion criteria for the study were working as a trainee or doctor, and voluntary participation in the study, and answering all questions. Twelve participants with missing information on the survey form were excluded, and the study was completed with 351 participants.

Ethics committee approval was obtained from the Necmettin Erbakan University Faculty of Medicine (decision no: 2022/3820, date: 03.06.2022). All participants were provided with an informed consent form outlining the study's objectives and procedures, and only those who consented participated in the study. The study adhered to the ethical principles outlined in the Declaration of Helsinki.

Measurements

Personal Information Form

A 21-item questionnaire was developed to collect demographic and occupational data. The first six questions gathered demographic information, including age, gender, marital status, and parental status. The remaining 15 questions addressed professional experiences, workplace characteristics, and participants' perspectives on the medical profession and working abroad.

Brain Drain Attitude Scale

The Brain Drain Attitude Scale (BDAS), developed by Oncu et al.,[15] was used to assess participants' migration tendencies. This 16-item Likert-type scale ranges from "strongly agree" (5 points) to "strongly disagree" (1 point), with two items reverse-scored. Higher scores indicate a more positive attitude toward brain drain. The scale's reliability was confirmed in this study, with a Cronbach's alpha coefficient of 0.95, consistent with previous findings.

Procedure

Data were collected through an online survey distributed to doctors and trainees working in diverse institutions. This method facilitated broad accessibility and ensured participation from individuals in different regions and working environments. The survey was administered anonymously to protect the privacy of participants.

Statistical Analysis

The data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 18.0 (SPSS Inc., Chicago, IL, USA). Descriptive statistics, including frequency, percentage, mean, standard deviation, median, and the 1st-3rd quartiles were calculated to summarize the data. The normality of numerical data was assessed using the Kolmogorov-Smirnov test. Non-parametric tests, such as the Mann-Whitney U and Kruskal-Wallis H tests, were employed to compare non-normally distributed data. Pairwise comparisons between groups with significant results in the Kruskal-Wallis test were conducted using the post-hoc Mann-Whitney U test with Bonferroni correction. Additionally, a linear regression analysis was performed to identify the factors influencing the total score of the BDAS. A p value of <0.05 was considered statistically significant.

RESULTS

A total of 351 participants (196 female, 155 male) were included in the study. Of these, 42.2% (n=148) were married, and 41.3% (n=145) had at least one child. The median score on the BDAS was 36.00 (29.00-46.00). Statistically significant differences in scale scores were observed based on gender, marital status, and parental status. Females scored significantly higher than males; single participants scored higher than married participants, and those without children scored higher than those with children (p<0.001, p=0.025, and p=0.017, respectively) (Table 1).

In terms of professional roles and workplaces, 61.8% (n=217) of participants worked in medical schools, while 10.3% (n=36) worked in city hospitals. The majority of participants were research assistants (43.0%, n=151), followed by general practitioners (17.4%, n=61). Of all participants, 51.0% (n=179) reported being actively employed. Significant differences in scale scores were observed according to workplace and professional role. Participants working in family health centers had significantly lower scores than those working in provincial/district health directorates and medical schools. Conversely, participants in provincial/district health directorates scored higher than those in medical schools, city hospitals, and state hospitals (p<0.001). General practitioners had significantly lower scores than participants in other roles (p<0.001) (Table 2).

A small proportion of participants (7.1%, n=25) had prior experience working abroad. Notably, 60.4% (n=212) of participants expressed interest in working abroad, with 67.0% (n=142) of those having researched or taken initiatives toward this goal. Additionally, 66.4% (n=233) indicated a desire to work outside the healthcare sector in the future.

Table 1. Comparison of participants' scale scores with demographic characteristics

Demographic variables		n (%)	Median (IQR)	p*
Gender	Female	196 (55.8)	39.00 (30.00-49.75)	<0.001
	Male	155 (44.2)	33.00 (27.00-41.00)	
Marital status	Married	203 (57.8)	35.00 (29.00-44.00)	0.025
	Single	148 (42.2)	39.00 (29.00-50.00)	
Child presence	No	206 (58.7)	37.50 (29.00-49.25)	0.017
	Yes	145 (41.3)	33.00 (28.50-44.00)	

*Mann-Whitney U test, IQR: Interquartile range

The mean scale scores of participants considering working abroad were significantly higher than the scores of those who did not (p<0.001) (Table 3).

Participants who believed that patient burden and professional responsibility would be lower abroad, and those who perceived medicine to be more prestigious abroad had significantly higher scale scores compared to those who did not hold these beliefs (p=0.032 and p=0.010, respectively) (Table 4).

According to the results of the linear regression analysis, when examining the factors affecting the total score of the BDAS, it was found that the gender variable had a significant effect. It was found that Men scored on average 2.85 points lower than women. This difference was found to be statistically significant (p=0.038). It was found that individuals who thought they would choose medicine again if given the choice had a higher total scale score by 5.26 points than those who did not want to study medicine or were undecided, and this result was statistically significant (p<0.001). The scores of individuals who were satisfied with the work environment were on average 3.51 points higher than those who were not satisfied, and this difference was significant (p=0.011). It was found that the total scores of individuals who thought they would work abroad were 5.60 points higher than those who did not have this idea (p<0.001). It was also found that the total scale scores of individuals who planned to work in a field other than

Table 2. Comparison of participants' scale scores with work-related characteristics

Variables	n (%)	Median (IQR)	p	Post-hoc*
Type of institution worked in				
Family health centre[a]	33 (9.4)	29.00 (23.00-37.50)	<0.001*	a<b,c b>d,e,f
Provincial/district health directorate[b]	20 (5.7)	45.50 (33.50-60.00)		
Medical school[c]	217 (61.8)	39.00 (29.00-50.00)		
City hospital[d]	36 (10.3)	35.00 (31.00-40.75)		
Public hospital[e]	34 (9.7)	32.00 (24.00-36.00)		
Private hospital/private practice[f]	11 (3.1)	30.00 (29.00-33.00)		
Professional title				
General practitioner[a]	61 (17.4)	31.00 (24.00-36.00)	<0.001*	a<b,c,d,e
Research assistant doctor[b]	151 (43.0)	36.00 (29.00-47.00)		
Specialist[c]	56 (16.0)	35.00 (30.00-39.75)		
Faculty member[d]	13 (3.7)	45.00 (26.00-60.00)		
İntern doctor[e]	70 (19.9)	41.50 (32.75-53.50)		
Are you keeping watch?				-
No	172 (49.0)	35.00 (29.00-44.75)	0.196**	
Yes	179 (51.0)	37.00 (29.00-50.00)		
Can you take holidays whenever you want?				
No	140 (39.9)	37.00 (25.25-51.00)	0.159*	-
Sometimes	88 (25.1)	34.00 (30.00-40.00)		
Yes	123 (35.0)	36.00 (30.00-46.00)		
Did you choose medicine by choice?				-
No	48 (13.7)	34.00 (26.75-41.75)	0.100**	
Yes	303 (86.3)	36.00 (29.00-47.00)		
Given the choice, would you choose medicine again?				
No[a]	138 (39.3)	31.00 (23.75-39.00)	<0.001*	c>a,b
I'm undecided[b]	127 (36.2)	37.00 (31.00-47.00)		
Yes[c]	86 (24.5)	46.00 (35.00-60.00)		
Are you satisfied with your working environment (physical and social)?				
No	196 (55.8)	33.00 (26.00-42.00)	<0.001**	-
Yes	155 (44.2)	39.00 (31.00-53.00)		

*Kruskal-Wallis H test, **Mann-Whitney U test, IQR: Interquartile range

health in the future were 4.29 points higher than the scores of those who did not have this idea (p=0.005). On the other hand, marital status and having children were not found to have a significant effect on the total scale score (Table 5).

DISCUSSION

The results of this survey of 351 doctors working in different institutions, designed to determine the attitudes of doctors and trainee doctors toward the brain drain and to investigate the demographic and work-related factors that may be associated with these attitudes, show that 86.3% of the participants chose medicine willingly. However, about three quarters of them would not choose medicine if they were given the right to choose. It was noted that they did not want to choose again, or were undecided. It is vital that countries have a sufficient number of qualified doctors to provide an effective health system.[16] It is estimated that there will be 2.2 doctors per 1000 people in Türkiye in

Table 3. Comparison of participants' thoughts about working abroad and in a different sector and their scale scores

Variables	n (%)	Median (IQR)	p*
Do you have any experience of working abroad?			
No	326 (92.9)	36.00 (29.00-47.00)	0.229
Yes	25 (7.1)	33.00 (27.00-44.00)	
Are you thinking of working abroad?			
No	139 (39.6)	27.00 (23.00-42.00)	<0.001
Yes	212 (60.4)	37.00 (32.00-51.00)	
If you are thinking about working abroad, have you done any research and/or initiatives on the subject? (n=212)			
No	78 (36.8)	36.00 (32.00-47.00)	0.521
Yes	134 (63.2)	39.00 (31.75-52.00)	
Would you like to work outside of healthcare in the future?			
No	118 (33.6)	42.00 (32.75-60.00)	<0.001
Yes	233 (66.4)	33.00 (27.00-42.50)	

*Mann-Whitney U test, IQR: Interquartile range

Table 4. Comparison of scale scores and factors influencing the thoughts of doctors considering working abroad

What factors influence your idea of working abroad? (n=212)	n (%)	Median (IQR)	p*
The idea that working conditions are better abroad			
No	38 (17.9)	36.00 (30.00-48.00)	0.292
Yes	174 (82.1)	38.00 (32.00-51.25)	
The idea that patient load and professional responsibility are lower abroad			
No	64 (30.2)	36.00 (31.00-42.75)	0.032
Yes	148 (69.8)	39.50 (32.25-53.00)	
The idea of earning a higher salary abroad			
No	78 (36.8)	39.00 (32.00-42.25)	0.665
Yes	134 (63.2)	37.00 (31.75-52.00)	
The idea that medicine is more respected abroad			
No	41 (19.3)	35.00 (29.00-49.00)	0.010
Yes	171 (80.7)	39.00 (32.00-51.00)	
Family reasons (such as children's education)			
No	153 (72.2)	39.00 (33.00-52.00)	0.042
Yes	59 (27.8)	35.00 (31.00-50.00)	
The idea that professional knowledge and skills will increase abroad			
No	140 (66.0)	39.00 (32.25-53.00)	0.033
Yes	72 (34.0)	35.00 (31.00-47.00)	

*Mann-Whitney U test, IQR: Interquartile range

Table 5. Linear regression results for factors affecting the total score of the Brain Drain Attitude Scale				
Variables	**β**	**Std. error**	**p**	**%95 CI**
Gender (ref: female)	-2.85	1.37	**0.038**	-5.55- -1.15
Marital status (ref: married)	-0.63	1.75	0.719	-4.09-2.82
Child presence (ref: no)	-1.09	1.90	0.566	-4.84-2.65
Given the choice, would you choose medicine again? (ref: no)	5.26	0.88	**<0.001**	3.51-7.00
Are you satisfied with your working environment ? (physical and social) (ref: no)	3.51	1.37	**0.011**	0.81-6.20
Are you thinking of working abroad? (ref: no)	5.60	1.33	**<0.001**	2.96-8.23
Would you like to work outside of healthcare in the future? (ref: no)	-4.28	1.50	**0.005**	-7.24- -1.32
CI: Confidence interval				

2022, which is lower than the Organisation for Economic Cooperation and Development average.[17] The availability of a sufficient number of doctors, who play an important role in the provision of health services, is crucial for the accessibility and quality. Although there are differences between countries, both medical education and the profession of medicine require intensive, continuous and long-term work. In addition, factors such as the lack of consideration of individual characteristics when choosing a profession, administrative problems, income inequality, working conditions, and the increase in violence in health care may be reasons why people regret their choice of profession. As causality was not questioned in our study, this situation is limited to the researchers' prediction.

A significant proportion of participants expressed dissatisfaction with their profession, with 66.4% indicating a desire to leave the healthcare sector and 67.0% actively researching or initiating steps to work abroad. These findings align with international studies that identify inadequate remuneration, long working hours, and lack of career advancement opportunities as key push factors for migration.[11,14,18-22] In Türkiye, recent reports from the Turkish Medical Association confirm this trend, showing a sharp increase in doctors applying for certification to work abroad.[9]

This study observed gender-based differences in migration intentions, with female doctors more likely to consider working abroad. While previous studies in Türkiye did not find significant gender differences in attitudes towards brain drain, global data indicate that female healthcare professionals experience higher rates of burnout, sleep disturbances, and mental health challenges, which may influence their migration decisions.[13,22] Enhancing workplace support systems, implementing policies that promote work-life balance, and addressing gender disparities in professional development may help retain female physicians.

Additionally, single participants and those without children were more likely to express migration intentions than their married counterparts. This aligns with international research, which suggests that single individuals experience fewer constraints in terms of family responsibilities and are more mobile when making career decisions.[10,23] Policies that improve work-life balance and provide financial incentives for professionals with families may help mitigate migration trends among this group.[24]

General practitioners were found to be less likely to consider migration compared to specialists and trainees. However, studies from countries like Sudan and Romania indicate that general practitioners are often more likely to migrate due to limited career progression opportunities in their home countries.[25,26] These variations suggest that country-specific factors, such as the structure of the healthcare system, availability of residency positions, and career incentives, play a crucial role in shaping migration patterns.

Among the 212 participants who were considering a career abroad, those who believed that the burden of patients and professional responsibility would be lower abroad and those who believed that the prestige of medicine would be higher abroad, had a more positive attitude towards the brain drain. In a survey of 3690 general practitioners across Türkiye, more than half cited working conditions in Türkiye as a reason for wanting to work abroad. More opportunities to work abroad, higher salaries, and the idea that their children would receive a better quality of education were cited as important factors for migration.[25] In another study, medical students said they wanted to migrate because of better living standards, higher salaries, working conditions in Türkiye and violence in the health sector.[13] In a study conducted in Ireland, better career opportunities were identified as the most important reason influencing the intention to migrate.[19] In a study of medical students in Uganda, high salaries, good working conditions, and political stability were cited as reasons for wanting to work abroad.[11] In a study by Vanasse et al.,[10] dissatisfaction

with professional life was shown to be a strong driver of physician migration.

According to the study's regression analysis, male doctors have less favorable attitudes toward brain drain, and those who have expressed a desire to work outside the health sector also have lower scores. Conversely, individuals who would choose medicine again are satisfied with their working environment, or are considering practicing abroad demonstrate higher attitude scores towards brain drain. No significant effects of marital status, and having children on attitudes towards brain drain were found. These results align with existing literature on factors influencing healthcare professionals' attitudes towards brain drain. A study by Guven Ozdemir et al.[27] identified that income levels indirectly affect attitudes towards brain drain through life satisfaction, suggesting that financial considerations and job satisfaction play crucial roles in shaping these attitudes. Furthermore, research indicates that poor remuneration, unfavorable working conditions, and limited career advancement opportunities are significant push factors driving healthcare professionals to consider migration. These factors contribute to job dissatisfaction, prompting individuals to seek better opportunities abroad.[28] The desire to practice medicine abroad, as observed in individuals with higher attitude scores towards brain drain, is often driven by the pursuit of better working conditions, higher salaries, and advanced training opportunities. This aligns with findings that highlight the role of professional development and quality of life improvements as key motivators for migration among healthcare workers.[29] The lack of significant effects of marital status and having children on attitudes towards brain drain suggests that professional factors may outweigh personal considerations in influencing migration intentions. This is consistent with studies that emphasize the predominance of career-related factors over personal circumstances in decisions to migrate.[30] In summary, the findings corroborate existing research that identifies job satisfaction, professional development opportunities, and working conditions as primary factors influencing healthcare professionals' attitudes towards brain drain. Addressing these issues through policy interventions aimed at improving remuneration, working conditions, and career advancement prospects may help mitigate the brain drain phenomenon in the healthcare sector.

According to the research results, the research group consists of research assistants (43.0%), general practitioners (17.4%), trainees (19.9%), and specialists (16.0%). However, the participation rate of faculty members is quite low (3.7%), which can be considered an important limitation in terms of sample representation. The low participation of faculty members may limit the generalisability of the overall results of the study to all physician groups. Considering that attitudes towards brain drain may vary according to career stage, migration tendencies and motivations of individuals in academic positions are not sufficiently represented, may result in the study findings being more focused on a specific occupational group. It has been emphasised in the literature that faculty migration decisions are generally influenced by factors such as research opportunities, academic freedom and financial incentives.[28,29] In this context, future studies using methods that allow for a more balanced sample distribution may help to more comprehensively assess the attitudes of physicians, especially those at different stages of their academic careers towards brain drain. In addition, qualitative studies aimed at understanding the reasons for the low participation of faculty members may explore more deeply the motivations of this group towards brain drain.

Study Limitations

Our study has a number of limitations. Due to the cross-sectional design of the study, causal relationships between different factors related to attitudes towards brain drain could not be assessed in the long term. In addition, there is heterogeneity in terms of inclusion in the study, depending on the status of the doctors and medical students participating. The number of doctors working as research assistants is relatively higher, while the number of doctors working as faculty members is lower. Conducting a similar study with a larger sample size and a more homogeneous distribution of status could overcome this limitation. The migration intentions of doctors were not assessed in depth; the research is limited to the participants' responses to the survey items. Participant bias should be considered as an important limitation of this study. It is possible that participants responded based on their personal experiences, professional expectations, and perceptions of current working conditions when reporting their attitudes towards brain drain. It should be borne in mind that individuals may exhibit a social acceptability bias when expressing their views on an issue that is influenced by socio-economic and political factors, such as brain drain. In addition, as the study is based on voluntary participation, individuals who are more interested in brain drain or have stronger views on the subject may be more likely to participate in the study. This may limit the representativeness of the study for all doctors in the general population. Despite all these limitations, this study will contribute to the literature as a pioneering study on the brain drain of physicians in our country. At the same time, based on the results of this study, these findings may

help policy makers and managers to improve both the education and working conditions of health professionals.

CONCLUSION

This study highlights critical factors influencing health workers' attitudes towards brain drain and underlines the urgent need for targeted interventions to reduce its impact. The findings suggest that a significant proportion of doctors and doctors in training are considering emigrating primarily because of unfavourable working conditions, income inequalities, and concerns about professional respect and security. In addition, the high proportion of participants who expressed a desire to leave the health sector altogether points to a deeper systemic problem that goes beyond migration alone.

To effectively address the brain drain, policy-makers should implement multi-faceted strategies aimed at improving both the working environment and long-term career satisfaction of health workers. These include improving workplace safety, providing reasonable working hours, and reducing administrative burdens, which can help keep health workers in the system. Priority should also be given to tackling violence in the workplace, which has consistently been cited as a deterrent to retention. Providing in-country scholarships, research funding, and professional development opportunities can help retain talent, especially among teachers and specialists. Addressing gender inequalities by implementing policies that support work-life balance, mental health resources, and family-friendly workplace policies can alleviate some of the pressures that lead to migration, especially among female physicians. Given that a significant proportion of physicians regret their decision to enter medicine, early career counselling and support mechanisms should be integrated into medical education to help students make informed decisions about their career paths.

The low participation of faculty members in this study highlights a gap in understanding migration trends among senior health professionals. Future research should focus on this group in order to develop more comprehensive strategies for retaining experienced health professionals. In addition, more studies using mixed-methods approaches, including qualitative interviews, may provide deeper insights into the underlying motivations and deterrents that influence brain drain. Ultimately, managing the brain drain in the health sector requires proactive, well-structured policy interventions that address both economic and professional concerns. By prioritising the well-being, job satisfaction, and career prospects of health workers, countries can build health systems that are more resilient and sustainable in the face of workforce shortages.

Ethics

Ethics Committee Approval: Ethics committee approval was obtained from the Necmettin Erbakan University Faculty of Medicine (decision no: 2022/3820, date: 03.06.2022)

Informed Consent: All participants were provided with an informed consent form outlining the study's objectives and procedures, and only those who consented participated in the study.

Presented in: The summary of this study was presented at the 8th International, 26th National Public Health Congress (Congress date: 5-7 December 2024, Congress venue: Ankara).

Footnotes

Authorship Contributions

Surgical and Medical Practices: H.K., M.Y., Concept: H.K., M.Y., Design: H.K., M.Y., Data Collection or Processing: H.K., M.Y., Analysis or Interpretation: H.K., M.Y., Literature Search: H.K., M.Y., Writing: H.K., M.Y.

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