

BRAIN DRAIN: INTENTIONS OF HOUSE OFFICERS IN SPECIALIZING FROM PAKISTAN OR ABROAD AND ITS' VARIOUS INFLUENCING FACTORS AMONGST MEDICAL GRADUATES FROM PESHAWAR, PAKISTAN

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ABSTRACT

BACKGROUND: Brain drain is defined as the immigration of highly qualified health professionals from low-income countries to high-income affluent countries in pursuit of a better & safer quality of life. A cross-sectional study was conducted to determine the magnitude of migratory intentions of House Officers of four main tertiary care hospitals based in Peshawar, Pakistan.

OBJECTIVES:

To determine the frequency of HO's intentions to specialize from Pakistan or abroad.

To highlight the variables that influence house officers' decision to specialize in Pakistan or abroad.

To identify the top favored destination countries & the geographical distribution of Pakistani immigrants.

METHODOLOGY: The research design for this study was a cross-sectional study that was carried out in four tertiary care hospitals of Peshawar KPK. The duration of this study was 5 months from March- July 2022. Data was collected through convenient sampling and 195 participants were involved in filling out a self-structured questionnaire.

RESULTS: The results of this study revealed that out of 195 respondents, 104(53.3%) intended to go abroad for specialization while 91(46.67%) opted to stay in Pakistan. The study also showed that out of 195 medical graduates, 104(53.3%) opted to abroad, 32(31.37%) preferred to go to the United States, 62(60.78%) preferred the United Kingdom and 8(7.84%) preferred other countries (Australia and Canada) for post-graduate training. 48.6% of males and 59.3% of females have intentions for going abroad with a p-value of 0.138 which is not significant; implying that there is no difference between males & females in selecting their career choice.

CONCLUSION: The findings of our research highlight the reasons behind the immigration of medical graduates. When a large number of graduates are going abroad there would be implications on healthcare and academic policies. This study can help the government to make appropriate policies to address brain drain. On the basis of the data collected if there is economic stability, better training facilities, and attractive salary packages are being provided by the state of Pakistan then there will be a decrease in the number of house officers migrating abroad.

KEYWORDS: House officers, Specialization, Brain drain, Residency.

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INTRODUCTION:

professionals from low-income countries to high-income affluent countries in pursuit of a better life.¹ In simpler terms brain drain can be described as the displacement of intellectual capital from developing countries to developed countries.²

This pattern has been seen amongst health professionals, especially doctors and dentists across the developing world due to a multitude of reasons. There are various push & pull factors that drive this migration of qualified health professionals: for instance, higher quality standard of living, higher wages, safety, security, professional work environment, better socioeconomic opportunities, advanced technology & post-graduate training programs are all the various driving factors in this brain drain

phenomena. In particular, the economic incentives of the developed world versus the disincentives of the countries of origin are heavily implicated in maintaining a constant inflow of doctors.³ This can be witnessed in the African continent the most, for the decline in economic growth is directly proportional to the rate at which doctors migrate.⁴

South East Asian countries like Pakistan, India, and Bangladesh provide a significant chunk of medical personnel to the United Kingdom & States. Pakistan is the third leading source of international medical graduates. According to the data provided by ministry of overseas Pakistanis and Human Resource development more than 40,000 Pakistani doctors are working abroad and the ratio is highest in USA & UK⁵

There is a global scarcity of doctors, which affects practically all nations and continents in addition to Pakistan. The paradox is that although while there are more medical schools worldwide than ever before, they are not enough, are asymmetrically dispersed, and cannot keep up with the growing need for doctors. One of the factors contributing to Pakistan's physician shortage is the country's rapidly aging population (which is expanding by 4 million people annually) and its rising medical needs. In rural areas and smaller cities, this shortage is particularly severe.⁶

Another adverse impact of this brain drain phenomenon is that this migration of physicians

In rich countries unbalances the global workforce, affecting the health systems of the origin countries and having a substantial negative impact on the physician-to-population ratio.⁷

Recent statistics reveal there are on average 10 to 15 million doctors in the world. In India and the USA, there are 1 million each while in Pakistan there are only 232,358 doctors in Pakistan (GP 186,980 and Specialist 45,378). This is one fourth of the required doctor strength; for Pakistan's current population of 218 million, 436000 doctors are needed. Pakistan has dropped to a rank of 154 out of 179 countries on the UN's Human Development Index (HDI) which is a quantitative measure of a country in terms of health, longevity, education & standards of life.⁸

Another potent factor that drives the efflux of young medical graduates is the professional quality of life (ProQOL) in Pakistan. ProQOL health is a good quantitative tool that can be used to gauge the stress-workload balance, emotional exhaustion, job satisfaction, etc. Given that, House Officers are frequently required to work long hours in a hospital which is a demanding and high-pressure setting, it makes young healthcare workers more prone to burnout & work dissatisfaction.^{9,10}

Although our research study has restricted itself to the migratory intentions of only house officers, it is important to note that the emigration of senior consultants can create an acute shortage of leadership & mentorship for the future generation, as well as the loss of some sub-specialties in some (extreme) cases.¹¹

The rationale of this study is to help urgently address the mass physician emigration since it is the newly graduated students that determine the future of the healthcare system, especially in Pakistan. Although the brain drain phenomenon is well acknowledged & realized, little work has been done in documenting the various driving factors that lead to the genesis of this brain drain. After a thorough literature review, we found that no such study has been conducted in Peshawar. Nonetheless, we included all influencing factors that drive this brain drain phenomenon that we could find in the literature review, but we also identified the preferred top target destination countries. Unlike other research articles, we also made a comparison with those doctors who opted to stay & specialize in Pakistan rather than abroad. Therefore, our objective is twofold: firstly, to highlight the variables that influence house officers' decision to

specialize from Pakistan or abroad and secondly identify the geographical distribution.

METHODOLOGY:

The study was conducted across four prominent tertiary care hospitals in Peshawar, consisting of two public hospitals, namely Khyber Teaching Hospital (approximately 1200 beds) and Hayatabad Medical Complex (around 1280 beds), and two private hospitals, Rehman Medical Institute (approximately 500 beds) and Nasir Teaching Hospital (about 250 beds). Our study encompassed all house officers working in these hospitals, irrespective of gender, making no distinction between public and private institutions. The public hospitals included KTH and HMC, while the private institutions were NTH and RMI. The study was carried out over a six-month period, from January to July 2022. Convenient sampling was employed to select a sample size of 195 respondents from a population size of 500, taking into account a finite population correction factor of 1.0 and a margin of error of 5%.

The study design adopted for this research was cross-sectional, and the sample size was determined using openepi.com with an anticipated frequency (p) of 71%.

Inclusion criteria comprised house officers willing to participate from various hospitals in Peshawar, while exclusion criteria encompassed those who were unwilling to participate, foreign nationals, and foreign medical graduates.

The questionnaire utilized in data collection consisted of two sections: one for individuals aspiring to continue their medical careers in Pakistan and another for those intending to pursue specialization abroad. For our study, a structured closed-ended questionnaire was employed to collect data from the house officers. The questionnaire was designed to systematically gather information in accordance with the study's objectives and collected Demographic Information, Intention of Specialization, Factors Influencing Specialization Choice, Current Perceptions, Future Plans, Challenges and Concerns, and Satisfaction with Medical Training. The structured and closed-ended nature of the questionnaire facilitated the systematic collection of data, allowing for quantitative analysis of the factors influencing house officers' intentions to specialize either in Pakistan or abroad.

Before implementing the study, a pilot study was conducted at Northwest Teaching Hospital to refine the self-reported questionnaire based on initial findings. Subsequently, questionnaires were distributed in person among house officers at the four tertiary hospitals, facilitating data collection for the study.

Ethical approval was granted by the Institutional Review Board and Ethical Committee of Alliance Healthcare Private Ltd. with reference no. IRB&EC/2023-SM/1006.

All the data has been analyzed on SPSS version 21. Descriptive

statistics including mean, median, mode, standard deviation, and Chi-square inferential statistics have been used for analysis.

RESULTS

A total of 195 questionnaires obtained from house officers representing four tertiary care hospitals of Peshawar, Pakistan namely Khyber Teaching Hospital, Hayatabad Medical Complex, Rehman Medical Institute and Nasir Teaching Hospital had a response rate of 100 % which showed that out of 195(100%) graduates intended to going abroad are 104(53.33%) while 91(46.67%) are staying in Pakistan.

Among the 195 respondents, there were 109 males (55.90%) and 86 females (44.10%). The mean age was 26.15 years, with a standard deviation of ±1.555. Of the 195 medical graduates, 104 (53.3%) expressed an intention to pursue specialization abroad. Within this group, 32 (31.37%) preferred the United States, 62 (60.78%) favored the United Kingdom, and 8 (7.84%) indicated other countries such as Australia, Canada, and Ireland as their preferred destinations for postgraduate training. Out of the 195 respondents, 104 (53.3%) intended to go abroad for specialization, while 91 (46.67%) opted to stay in Pakistan.

Further analysis shows that 61.3% of house officers aged between 23 and 25 years, 47.1% of those aged between 26 and 28, and 55.6% of those aged 28 and above expressed intentions to pursue specialization abroad.

In terms of gender, 48.6% of males and 59.3% of females expressed intentions to pursue higher studies abroad. However, a statistical analysis (p-value to be added) indicates that there is no significant difference between males and females in their intentions for specialization abroad.

Analyzing by the hospital, it was found that 50% of HMC house officers, 55.9% of KTH house officers, 61.5% of RMI house officers, and 46.2% of NTH house officers intended to pursue postgraduate specialization abroad.

When comparing intentions based on gender within each hospital, the analysis showed that 6.4% of males and 9.3% of females intended to pursue higher studies abroad, with no statistically significant difference observed between genders.

Likewise, when examining intentions by age group within each hospital, it was found that 65.1% of males and 70.9% of females intended to pursue higher studies abroad, with no significant difference between genders.

The collected data suggests that the primary reasons for house officers choosing to migrate abroad include the availability of high-quality training facilities (83.7%), the impact of residency training (83.6%), better professional prospects (77.9%), and attractive financial packages (76.9%). Conversely, those who preferred to stay in Pakistan cited family ties (74.8%) and a desire to serve their nation (75.8%) as the major reasons. These findings are summarized in Table 1 and Table 2.

Table 1: Respondents Reasons for Going Abroad

	Agree (%)	Neutral (%)	Disagree (%)
Reasons for migration to abroad			
1. Terrorism and political instability	39.5	21.2	39.3
2. Stressful work environment and increased work load	51.9	19.2	28.9
3. Little/no intellectual freedom	50.9	26	23.1
4. Lack of tertiary care jobs	59.6	16.3	14.4
5. Can't achieve their desired aim	60.6	19.2	20.2
6. Rising hostilities towards doctors	69.3	16.3	14.4
7. Economic crises of Pakistan	75.9	7.7	16.4
8. Appropriate Facilities and funds for research inabroad	72.1	16.3	11.6
9. Better professional prospects after training	77.9	11.5	10.6
10. Attractive Financial packages	76.9	12.5	10.6
11. Impact of residency training on their respective fields	83.6	8.7	7.7
12.High quality training facilities in abroad	83.7	6.7	9.6

Table 2: Respondents' Reasons for Staying in Pakistan for Post-Graduation

	Agree (%)	Neutral (%)	Disagree (%)
Reasons for staying in Pakistan for Post-graduation			
1. Minimum language skills	18.7	27.5	53.8
2. Difficult to find accommodation in abroad	37.3	29.7	33
3. Inadequate financial resources	48.4	17.6	34
4. Professional satisfaction	59.4	26.3	14.3
5. Family ties in Pakistan	74.8	12.1	13.1
6. Desire to serve our people/nation	75.8	18.7	5.5

DISCUSSION

The aim of this study was to inquire about the intentions of house officers in specializing from Pakistan or abroad and its various influencing factors among medical graduates of Peshawar. Our study is based on data collected from public and private hospitals of Peshawar. These included four tertiary-care hospitals (KTH, HMC, RMI, and NTH). Questionnaires were distributed among house officers of all the above-mentioned hospitals.

Our study shows that out of 195 respondents, 104(53.3%) intended to go abroad for specialization while 91(46.67%) opted to stay in Pakistan. In another research conducted among medical graduates from Lahore (2011) 166(60.4%) intended to train abroad while 77(28%) wanted to stay in Pakistan.¹²

A survey was conducted among medical graduates at two medical colleges in Bangalore, India. Surveys were completed by 166 (69%) of the students, of which 98 (59%) wished to leave India for further training abroad.³⁰ Another research among medical students of Karachi shows that over 95% of Aga Khan University (AKU) and over 65% of Baqai University (BU) medical students intend to proceed abroad for their postgraduate training.¹³

Our respondent's top destination is the same as reported previously in the literature on this topic, i.e., United States, United Kingdom, Australia, and Canada. (add reference). Out of 195 medical graduates, 104(53.3%) opted for abroad which 32(31.37%) preferred to go United States, 62(60.78%) preferred the United Kingdom and 8(7.84%) preferred other countries (Australia and Canada) for post-graduate training.

Research conducted in India was also based on medical graduates' views on immigration for training and practice abroad: the study was surveyed by 166(69%) students. 98(59%) wished of leaving India for specialization in abroad. Of those 41(42%) preferred the United States, 42(43%) preferred the United Kingdom and 9(9%) preferred other countries (Canada, Australia

or New Zealand's).¹³ We feel the reason behind medical graduates preferring to settle abroad is because of better working environment and professionalism there. Also, there are better salary packages abroad that is why most of graduates prefer abroad.

Results of the study showed that the primary factors due to which respondents wished to migrate abroad are high-quality training facilities (83.7%) and the impact of residency training on their respective fields (83.6%). The secondary most significant pull factors were better professional prospects after training (77.9%) and better salary packages (76.9%). The fifth most highly liked factor in influencing students to immigrate abroad was the economic crisis in Pakistan (75.9%). Other notable push factors in Pakistan that are worthy of mention are political instability, stressful working environment lack of tertiary care jobs, etc. Based on research findings, it is evident that the primary drivers for graduates' inclination to seek opportunities abroad are the significant influence of residency training on their future career prospects, the financial situation of medical professionals, and the availability of job opportunities.¹⁴

Also, according to our study conducted on 195 graduates 91(46.67%) wanted to stay in Pakistan. The primary factor was the desire to serve the nation (75.8%) and to maintain family ties in Pakistan (74.8%), whilst factors of secondary importance for HO's to stay in Pakistan were professional satisfaction (59.4%) and a lack of financial resources to support settlement abroad (48.4%)

Another same research was conducted among medical graduates of Lahore which shows that the major factors for students who wished to stay in Pakistan were family ties, and desire to settle in Pakistan and serve our population. Professional satisfaction due to a large number of patients encountered with a vast variety of presentations and hands-on clinical experience also contributed significantly among reasons to stay in Pakistan.¹⁵

CONCLUSION

The findings of our research highlight the reasons behind the immigration of medical graduates. When a large number of graduates are going abroad there would be implications for healthcare and academic policies. This study can help the government to make appropriate policies to address brain drain. On the basis of data collected if there is economic stability, better training facilities, and attractive salary packages are being provided by the state of Pakistan then there will be a decrease in the number of house officers migrating abroad.

Conflict of Interest

All the authors declare no conflict of interest

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None

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- A. Conception and Planning of the research
- B. Acquisition of data/participation in designing methodology
- C. Interpretation, analysis and discussion
- D. Review of the manuscript