

Aptitude of Medical Students Towards their Postgraduate Medical Education at Multan; Brain Drain in Pakistan

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Abstract

Objective: To investigate the factors influencing medical students' decisions to pursue their Post Graduate Medical Education (PGME) in Pakistan or abroad, and to examine the differences in preferences between students from government and private medical colleges.

Material and Methods: A descriptive cross-sectional study was conducted from January to July 2024 among 300 medical students in their 4th and final year of MBBS from four different medical colleges in Multan. A Google form was used to collect data, with two sections: one for pursuing PGME in Pakistan and the other for going abroad. Data analysis was performed using SPSS 27.

Results: The study found that 166 (55.3%) of the respondents were males. A majority of participants (53%) preferred to stay in Pakistan, with 75.4% intending to pursue FCPS in Pakistan. Among those who wanted to go abroad, the most popular examination options were USMLE (29.1%) and PLAB (63.1%). The major pull-factors influencing students' decisions to go abroad were lack of resources to move abroad (67.3%) and lack of information about foreign exams (63.6%). The primary push-factors were low salaries of jobs (92.2%), high unemployment rate (91.5%), availability of more opportunities abroad (78.7%), safer work environment (65.3%), and better living standards (56%).

Conclusion: The study revealed that nearly half of the medical students (47%) intended to go abroad for their postgraduate education. To prevent brain drain and retain our talented young doctors, the government should implement policies to improve healthcare services in Pakistan.

Keywords: Postgraduate Medical Education, Medical Students, Brain Drain

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Introduction

The phenomenon of skilled professionals leaving their home country to seek financial stability in another country is known as the "Brain Drain". Specifically, the migration of physicians is referred to

as Medical Brain Drain.¹ The lack of incentives for academic credentials and experience can lead to feelings of disillusionment, prompting individuals to migrate to developed countries. Common factors contributing to brain drain include limited career opportunities, low salaries, lack of benefits, poor quality of life, political instability, and crime conditions. The recent wave of political instability in Pakistan has resulted in the migration of approximately 832,339 highly skilled individuals, including healthcare professionals, since the year 2022.²

According to the Bureau of Emigration & Overseas Employment, Pakistan lost around one million

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people in 2022 alone, with 4.66% being highly qualified and skilled workers, including over 8,000 physicians who have left the country in the past five years³. The majority of Pakistani students seeking post-graduate medical education (PGME) opt for countries such as the USA, UK, Australia, and Canada.

Notably, approximately 23-28% of the medical workforce in these countries consists of International Medical Graduates (IMGs).⁴ Pakistan produces around 30,000 medical graduates annually but struggles to retain them due to the loss of doctors to developed nations such as the UK and the US. An estimated six million highly skilled professionals, including healthcare workers, have left Pakistan between 1971 and 2022. If policy changes are not implemented, these numbers may continue to rise.⁵

Additionally, according to the National Health Service (NHS) in the UK, as of 2021, 14% of specialist doctors are from Asian nationality, with two-thirds being of Pakistani or Indian origin.⁶ After completing their medical studies, students are presented with various pathways to pursue their postgraduate medical education (PGME). The primary options are to study in Pakistan or abroad and to achieve their professional goals, they must pass assessment exams specific to the country they wish to pursue their career in. For instance, students seeking to practice in the United States must take the USMLE, while those aiming to work in the UK must pass the PLAB exam.^{7,8}

Similarly, medical councils in Australia and Canada administer their own licensing exams for international medical graduates.^{9,10} In Pakistan, most students opt for the FCPS exam to continue their PGME¹¹. Other options include MCPS, MS, M.Phil., and MPH. Given the current state of the medical profession in Pakistan, with declining employment rates and increasing numbers of graduates, job security is a major concern for medical graduates. Furthermore, Pakistan's healthcare system ranks 130th out of 195 countries worldwide, and its health expenditure was only 3.38% of its GDP in 2019.¹²

It is not surprising that many medical students and physicians choose to pursue a career abroad in search of better working conditions. With an increasing number of students pursuing postgraduate education abroad, it is essential to understand the factors driving this trend and its impact on healthcare

systems in both home and host countries.

Pakistan faces a severe shortage of doctors due to its large population, making it essential to understand the reasons behind medical graduates' choices. This study was conducted to provide quantitative data on the number of students inclined towards pursuing PGME abroad or staying in Pakistan, as well as the factors influencing their decisions. The primary objectives of this study were to determine the aptitude of medical students towards PGME and the factors contributing to their choice of different career pathways.

Material and Methods

An online Google survey was conducted from January to July 2024 at four medical colleges in Multan, comprising two government and two private medical colleges, targeting 4th and final-year MBBS students from the year 2023. The sample size was calculated to be 329, using a prevalence of 31% of migratory intentions from previous research and a 95% confidence interval with 5% margin of error. After obtaining approval from the Institutional Review Board of the college (IRB case no. TW/51/CIMS) dated 29-12-2023, the questionnaire was sent to eligible students, and 300 responses were collected, resulting in a response rate of 91.1%. The questionnaire included socio-demographic information about the participants as well as their intentions to stay in Pakistan or move abroad, based on their personal preferences. A five-point Likert scale was used to record the reasons or factors behind their intentions for post-graduation, ranging from "strongly disagree" to "strongly agree". Participants provided informed consent, indicating their willingness to have their data used for research purposes. The data was then analyzed using SPSS version 27, focusing on frequencies and percentages.

Results

This study was conducted from January to July 2024 on 4th and final year MBBS students of 4 medical colleges of Multan out of which, 2 were government and 2 were private institutions. A total of 300 students participated in the study with mean age 23.1 ±1.01SD, with males and females proportions of 55.4% and 44.6% respectively. The majority of respondents, 182 (60.7%) were from 4th year MBBS & 118 (39.3%) were from final year MBBS. Out of

300 students, 159 (53%) wanted to stay in Pakistan with majority of students' intention (75.5%) to pursue FCPS followed by MCPS (16.3%), while 141 (47%) wanted to pursue their postgraduate medical education (PGME) abroad with PLAB (63.1%) as their preferred examination of choice followed by USMLE (29.1%).(Table 1).

Table 1: Socio-demographic Profile

Variables	Frequency (n=300)	Percentage
Gender:		
• Male	166	55.40%
• Female	134	44.60%
Year of study:		
• 4 th year MBBS	182	60.70%
• Final year MBBS	118	39.30%
Institution:		
• CMH Institute of Medical Sciences, Multan.	90	30%
• Nishtar Medical College Multan.	119	39.60%
• Multan Medical and Dental College, Multan.	50	16.60%
• Bakhtawar Amin Medical and Dental College, Multan.	41	13.60%
Goal regarding PGME who intended to stay in Pakistan (n=159) :		
• FCPS		
• MCPS	120	75.50%
• MS	26	16.30%
• M.Phil / MPH	10	6.30%
	3	1.90%
Goal regarding PGME who intended to go abroad (n=141):		
• USMLE for USA	41	29.10%
• PLAB for UK	89	63.10%
• AMC for Australia/ CMC for Canada	11	7.80%

According to this study, the major pull-factors causing respondents to stay in Pakistan, on which most of the participants were agreed or strongly agreed, were lack of resources to move abroad 107(67.3%),lack of information about foreign exams 101(63.6%) and time-consuming difficult migration process 76(47.8%).

Table 2: Factors affecting the aptitude of students towards their PGME [Those who intended to stay in Pakistan (n=159)]

Factors / Reasons	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Lack of resources to move abroad	21(13.2%)	17(10.7%)	14(8.8%)	60(37.7%)	47(29.6%)
Lack of information about foreign medical exams	19(11.9%)	17(10.7%)	22(13.8%)	68(42.8%)	33(20.8%)
Difficult foreign exams	41(25.8%)	33(20.8%)	37(23.3%)	28(17.6%)	20(12.6%)
Time-consuming and difficult migration process	21(13.2%)	26(16.4%)	36(22.6%)	55(34.6%)	21(13.2%)
Family pressure not to go abroad	40(25.2%)	33(20.8%)	37(23.3%)	25(15.7%)	24(15.1%)
Difficulty living alone	51(32.1%)	30(18.9%)	32(20.1%)	28(17.6%)	18(11.3%)
Uncomfortable practicing in a foreign language	42(26.4%)	38(23.9%)	39(24.5%)	24(15.1%)	16(10.1%)
Want to serve their homeland	26(16.4%)	35(22%)	44(27.7%)	48(30.2%)	6(3.8%)
Racism abroad	34(21.4%)	42(26.4%)	40(25.2%)	39(24.5%)	4(2.5%)
Lack of time to prepare for foreign medical exam due to academics	31(19.5%)	39(24.5%)	38(23.9%)	39(24.5%)	12(7.5%)

However, the major push-factors causing students to go abroad for their Post Graduate Medical Education (PGME), were low salary of doctors in Pakistan 130(92.2%), high unemployment rate 129(91.5%), the availability of more opportunities abroad 111(78.7%), safer work environment 92(65.3%) and better living standards 79(56%). These were the main reasons on which most of the participants agreed or strongly agreed in this study.

Table 3: Factors affecting the aptitude of students towards their PGME [Those who intended to go abroad (n=141)]

Factors / Reasons	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Low salary jobs in Pakistan	2(1.4%)	3(2.1%)	6(4.3%)	35(24.8%)	95(67.4%)
High unemployment rate in Pakistan	2(1.4%)	2(1.4%)	8(5.7%)	43(30.5%)	86(61%)
More opportunities abroad	4(2.8%)	9(6.4%)	17(12.1%)	45(31.9%)	66(46.8%)
Safer work environment	2(1.4%)	11(7.8%)	36(25.5%)	74(52.5%)	18(12.8%)
Better living standards abroad	7(5%)	14(9.9%)	41(29.1%)	63(44.7%)	16(11.3%)
Technological advancements abroad	18(12.8%)	22(15.6%)	32(22.7%)	50(35.5%)	19(13.5%)
Opportunities to work with diverse group of doctors	16(11.3%)	21(14.9%)	40(28.4%)	53(37.6%)	11(7.8%)
Personal liking for either USA or UK	32(22.7%)	35(24.8%)	28(19.9%)	34(24.1%)	12(8.5%)
Ability to move to countries like UAE after clearing exams	43(30.5%)	28(19.9%)	29(20.6%)	34(24.1%)	7(5%)

Discussion

This study comprised 300 medical students from both 4th and final-year MBBS programs, with 55.3% male participants and 44.7% female. The majority of respondents (53%) expressed a desire to stay in Pakistan, while 47% wanted to pursue opportunities abroad. This finding is consistent with a previous study in Faisalabad, which reported that 66.6% of medical students intended to stay in Pakistan after graduation¹³. In this survey, 141 students (47%) expressed interest in pursuing postgraduate medical education (PGME) abroad, with the preferred examination being PLAB (63.1%), followed by USMLE (29.1%). When it comes to medical students considering immigration, a study in Pakistan found that 52.3% of respondents preferred the United States, 9.5% preferred the United Kingdom, and 9.5% preferred Ireland, while 28.5% were interested in Saudi Arabia.¹³

Among those who wanted to move abroad, the United Kingdom (63.1%) was the most popular destination among high-income countries, consistent with findings from a study at Ayub Medical College (75.6%)¹⁴ and University College of Medicine and Dentistry, Lahore (40.7%).⁴ The preference for PLAB as a pathway to move abroad was attributed to its ease of preparation and financial feasibility for fresh medical graduates compared to other exams. Additionally, the UK's relatively easier immigration

policy for doctors was also seen as an attractive factor. Among those who intended to stay in Pakistan, FCPS (75.5%) was the preferred choice, driven by its reputation as a prestigious and popular qualification that offers a wider range of job opportunities compared to other options like MCPS, M. Phil., etc. However, personal factors such as career goals, personal aspirations, mentor guidance, and availability of training positions also played a significant role in their decision.

In contrast, the main push factors driving students to pursue Post Graduate Medical Education (PGME) abroad were the low salary of doctors in Pakistan (92.2%), the high unemployment rate (91.5%), and the availability of more opportunities abroad (78.7%). Additionally, the desire for a safer work environment (65.3%) and better living standards (56%) were also significant motivators. A study conducted among Malaysian medical students found that 75.4% of respondents considered learning international standards and experiencing diversity as "very important" benefits of further study abroad. They also rated better earnings (63.2%) and further learning (30.7%) as the most relevant reasons for doctors working overseas. The most preferred foreign destinations for further study and work were the UK, Ireland, and Australia.¹⁵

In another study conducted at Lahore, 63.64% of respondents cited quality of training as the primary reason for migration abroad, followed by economic prospects after training (15.91%), salary during training (9.09%), professional prospects after training (9.09%), and desire to settle abroad (2.27%).¹⁶ The Western countries' offer of better living standards, including safety, job security, and employment ratios, was also a significant draw for many respondents. According to this study, the primary factors driving students to stay in Pakistan were the lack of resources to move abroad (67.3%), lack of information about foreign exams (63.6%), and the time-consuming difficult migration process (47.8%). This is consistent with a study conducted at Peshawar, 32% of the total participants intended to stay back in Pakistan. The major factors behind the participants' intention to stay back included family ties (72.7%), and desire to serve the nation (60.6%).¹⁷ In the current study, other factors contributing to respondents' decision to stay in Pakistan included loyalty to their homeland (34%), racism abroad (27%), and uncomfortable practicing in a foreign

language (25.2%). In contrast, a study conducted in Malaysia found that financial factors were the most significant reason for not pursuing studies abroad, with 81.6% of respondents citing this as a reason¹⁵. A study conducted in Lahore found that for those who had no plans to migrate abroad, the primary reasons for staying in Pakistan were family ties (44.4%), followed by a desire to serve the nation (33.3%), professional satisfaction (11.1%), desire to live in Pakistan (5.5%), and lack of resources (5.5%).¹⁶

In terms of recommendations for preventing brain drain, students suggested increasing wages, reducing work cycles, improving service structure, improving the working environment, building more teaching hospitals, increasing the number of places for PG training, changing training styles, and introducing modern methods to combat brain drain.

Conclusion

The majority of participants (53%) in this study chose to remain in Pakistan rather than pursuing opportunities abroad (47%). The primary reasons for this decision were the lack of resources needed to move abroad (67.3%) and a strong sense of loyalty to their homeland (34%). In contrast, the primary factors driving doctors to leave Pakistan were the low salaries of medical professionals in the country (92.2%) and the high unemployment rate (91.5%). These findings suggest that Pakistan's health officials should launch campaigns to address the issues faced by medical students and physicians in order to mitigate the brain drain crisis. Furthermore, our research opens up new avenues for exploration into the broader influences that contribute to the loss of postgraduate trainees from Pakistan, including factors such as political landscape, economic stability, and future job prospects.

Conflict of Interest

None

Funding Source

None

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Authors Contribution

IQ: Conceptualization of Project

IQ, HMY: Data Collection

IQ, ZS: Literature Search

MAK: Statistical Analysis

ZS, IQ: Drafting, Revision

HMY: Writing of Manuscript