

DETERMINANTS OF MEDICAL BRAIN DRAIN IN DISTRICT PESHAWAR, KHYBER PAKHTUNKHWA, PAKISTAN

Hashim Malik¹, Salma Qudrat², Hayat Muhammad Khan³, Ahmed Anwar⁴, Faisal Hayat Mian⁵, Salman Khan⁶

¹Final year MBBS Khyber Medical College Peshawar, Pakistan

²Final year MBBS Khyber Medical College Peshawar, Pakistan

³Associate Professor, Community Medicine Department, Khyber Medical College, Peshawar, Pakistan

⁴Final year MBBS Khyber Medical College Peshawar, Pakistan

⁵Final year MBBS Khyber Medical College Peshawar, Pakistan

⁶Final year MBBS Khyber Medical College Peshawar, Pakistan

Correspondence:

Dr. Hayat Muhammad Khan

Email: hayatkk786@yahoo.co

Abstract

Background: Brain drain is a global phenomenon for pursuance of qualification or permanent settlement. Every year a major bulk of health care profession leave Pakistan. Main reason for migration to other country is relatively stable economies for better career opportunities and professional development.

Objective: To assess determinants of medical brain drain in district Peshawar, Khyber Pakhtunkhwa, Pakistan

To access and analyze the push and pull factors for medical brain drain in Peshawar.

Materials and Methods: This cross- sectional descriptive study was carried out from April 2023 to September 2023 in medical colleges and hospitals situated in Peshawar. Total 300 were included in the study. The data was analyzed using SPSS version 22.0 for windows.

Results: Out of 300 participants 220 (73%) planned on moving abroad while 80 (27%) participants wished to stay in Pakistan. Our study revealed that the top reasons for migration were higher standards of living abroad 208 (94.55%), better salary packages abroad 206 (93.66%) and the political instability in Pakistan 205 (93%). In contrast, the top reasons for those staying in Pakistan were to serve the country 68 (85%) and a reluctance to be separated from their families 63 (75%). 134 (61%) of our participants expressed their willingness to return to Pakistan.

Conclusion: About ¾ of our study participants were planning to move abroad, majority of them for economic and professional development.

Key words: Brain drain, Healthcare professionals, Pull factors, Push factors.

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Introduction:

Medical profession is highly mobile owing to the opportunities provided to healthcare workers, especially doctors, throughout the world due to which physician's migration has become a global phenomenon¹. This medical migration, often called the "brain drain" is the migration of professionals and intellectual individuals to developed countries in pursuit of financial and educational improvement. This is a big loss to the intellect of any country and has adverse effects on the overall economic and social wellbeing of the country². Health professionals from developing and underdeveloped areas of the world like Africa, Asia, and Pacific migrate to first world countries like the US, the

UK, Canada, and Australia^{3,4}. About 180,000 (25%) of the USA physicians are trained in USA, with 64.4% of them from lower/middle-income nations. Around 37% of world's healthcare professionals live in the United States and Canada while these countries have only 10% of global disease burden. On the other hand, Africa, from which a large number of physicians are migrating, bears 24% of the global burden of disease but has only 3% of the healthcare professionals³.

Like other developing countries, Pakistan too has been a victim of brain drain for the past three decades and is the third leading source of International medical graduates in affluent countries worldwide⁵. Every year

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Pakistan spends only 1-3 % of its GDP on health. Due to low expenditure on health, healthcare professionals prefer to move to some developed country for better earning⁶. This large-scale migration of physicians is evident from a 2013 report of Higher Education Commission (HEC) which states that about 15,000 doctors leave the country every year⁷.

This migration of physicians from low income to high income countries is reported to be influenced by many factors, often called the push and pull factors⁸. When it comes to the “pushing factors”, these are high rates of unemployment, poor quality of post-graduate training and education, limited career opportunities, lack of research opportunities, poor law and order situation, poor job prospects with low salary structure⁹. Brain drain is also due decreased quality of life satisfaction in the developing countries¹⁰.

One of the major pull factors is the high demand of health care professionals in developed nations. USA will face a shortage of between 54100 to 139000 physicians by 2033¹¹. Other factors are high tech training and super specializations¹², funding opportunities and scholarly motivation¹³.

Pakistan being a major victim of medical brain drain and since limited studies have been conducted on the topic, the aim of our study is to explore the current brain drain situation and push and pull factors in doctors and medical students in Peshawar.

Material and Method:

Study design: Our study was a cross sectional descriptive study.

Study setting & duration: We conducted the study in public and private medical colleges and teaching hospitals in Peshawar including Khyber Medical College, Khyber teaching hospital, Pak International Medical College, Peshawar Institute of Medical Sciences Hospital, Rehman Medical College, Rehman Medical Institute, North West School of Medicine, and North West General Hospital from April 2023 to September 2023.

Study population: The study population included fourth year and final year students of MBBS, House Officers and Training Medical Officers.

Sample size & sampling technique: The sample size was 300 calculated on WHO sample size calculator. Of the total, half were selected from hospital settings and half from medical colleges. Out of total eight settings, 37 or 38 participants were selected from each hospital and medical college. Both simple random (sampling frame available) and non-probability convenience sampling (where sampling frame was not updated) techniques were used for collection of data.

Inclusion & exclusion criteria: All willing 4th and final year students of MBBS, all House Officers and Trainee Medical Officers, in public and private institutes of Peshawar and age between 20 and 30 years with both genders were included in the study. Majority of the Participants with dual nationality come to Pakistan for pursuance of qualification, therefore, they were excluded from the study. All the foreign nationals and those participants whose families were settled abroad were also excluded.

Data collection tool: A questionnaire developed for the data collection was validated by expert panel comprised of members from research cell, community medicine department and medical education department of Khyber Medical College Peshawar.

Data analysis: For the analysis of data SPSS version 22.0 for windows was used. Since it was a descriptive study, therefore, variables consisting of push & pull factors were analyzed in descriptive form.

Ethical consideration: Ethical approval was taken from ethical board of Khyber Medical College Peshawar. Informed consent was taken from each respondent before start of data collection.

Results:

Table: 1Demography of the Participants				
Gender	Male	Female		Total
	185 (62 %)	115 (38 %)		
Age group in years	20-23 years	24-27 years	28-30 years	300
	126 (42 %)	115(38 %)	59 (20 %)	
Marital status	Married	Unmarried		
	247 (86 %)	53 (14 %)		
Career breakup	Students	House officers	Trainees	
	142 (48 %)	98 (32 %)	60 (20 %)	

Out of the total 300 participants, 220(73%) planned to move abroad while 80(27%) participants wished to stay in Pakistan.

Table 2: Reasons for Migration				
Reasons		Total I = N	Yes	No
1	Better Post Graduate Medical Education	220	201(91.3 %)	19(8.7 %)
2	Better Salary Package	220	206(93.6 %)	14(6.4 %)

3	Better Prospect For Children	220	125(56.8 %)	95(43.2%)
4	Good Career Opportunities	220	199(90.4 %)	21(9.6 %)
5	Better Standard Of Living	220	208(94.6 %)	12(5.4 %)
6	Poor Management	220	187(85 %)	33(15 %)
7	Lack Of Employment	220	199(90.5 %)	21(9.5 %)
8	Nepotism And Favoritism	220	189(85.9 %)	31(14.1%)
9	Political Instability	220	205(93.2 %)	15(6.8 %)
10	Violence And High Crime Rate	220	182(82.7 %)	38(17.3%)

Of the total 300 participants, 80 (27 %) health professionals were planning to stay in Pakistan. Detailed analysis of these participants is given in the following table.

Table 3: Reasons for Non-Migration				
Reason		Tot = N	Yes	No
1	To Serve The Country	80	68(85 %)	12(15 %)
2	Can't Afford To Go Abroad	80	31(38.75 %)	49 (61.25 %)
3	Can't Leave Family	80	63 (75 %)	17 (25 %)
4	Visa Issues	80	22(27.5 %)	58(72.5 %)
5	Difficulty Settling Abroad	80	42 (52.5 %)	38 (47.5 %)
6	Lack of Islamic Culture And Practicability Abroad	80	41 (51.25 %)	39 (48.75 %)
7	Lengthy Specialization	80	33 (41.25 %)	47 (58.75 %)
8	Tough Examination Procedure	80	32 (40 %)	48 (60 %)
9	Family Hospital or Medical Centre	80	28 (35 %)	52 (65 %)
10	Peer Pressure	80	20 (25 %)	60 (75 %)

Discussion:

According to the results of our study, out of 300 participants, 220 (73%) planned to go abroad while 80 (27%) participants were planning to stay in Pakistan.

Results of a similar study conducted in Faisalabad in the year 2021-22 showed 33% of participants planned to move abroad and a study conducted in Dow Medical College and Civil Hospital, Karachi in 2015-16 54% of participants planned to move abroad¹⁴.

Our study identified the main drivers of migration as the pursuit of higher living standards (94.55%) and more attractive salary packages (93.6%). The rising political turmoil in the country also shows to be a major driving factor for migration as 93 % of the participants stated political instability as one of the reasons to leave the country. This result is compatible with other studies conducted in Pakistan¹³. Better Postgraduate Medical Education was also one of the top reasons to migrate (91%). This shows the dissatisfaction of the young doctors and medical students with the post graduate training opportunities in Pakistan. Keeping in view better future prospects for children, 56.8 % of the participants were considering it an important pull factor but it was ranking at the bottom of all the pull & push factors for migration.

In our study only 80(27%) of the total 300 participants were not planning for migration. The topmost reason for non-migration was the urge to serve the country (85%). Another common reason for non-migration (75%) was their emotional attachment to their families. Lack of Islamic culture in the west and difficulty in settling abroad in an unmatched culture were also some of the major factors for non-migration. Majority (61%) of our study participants expressed their willingness to return to Pakistan after completing their postgraduate training abroad. This indicates a potential brain gain rather than brain drain for the country, as it can benefit from the valuable experience and knowledge acquired by these professionals.

According to a report, due to migration of physicians, physician-to-population ratio has fallen to 0.74 per 1000 people in Pakistan. The projected shortfall of doctors by 2020 ranges from 58,000 to 451,000¹⁵.

Conclusion:

Compared to those who were planning to stay in Pakistan (27 %), major bulk of the participants (73 %) was thinking about migration. Economic benefits, quality training opportunities abroad and unstable political environment in the country were the main driving factors for their migration. Main reasons for non-migration were their family affiliation and serving their country.

Recommendations:

- Economic security might be ensured
- Brain gain can be attained by incentivizing the health professionals in their native country

- Training standards be brought at par the standard protocols in the developed nations

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