

Perception of dentists regarding brain drain in Punjab, Pakistan: A cross-sectional survey

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ABSTRACT

BACKGROUND & OBJECTIVE: Brain drain is a term coined for the migration of highly skilled professionals from the country of their origin to more developed countries. As the trend of moving abroad is on a rise, ever since, it is causing a shortage of dental professionals in our country. The objective of our study is to determine the factors that would compel the dentists of Punjab, Pakistan, to move abroad and how to prevent this migration.

METHODOLOGY: It was a cross-sectional survey. Data was collected through a self-constructed and validated questionnaire. The study was done in dental colleges in Punjab, and the duration of the study was one year. The questionnaire was distributed both by hand and via digital sources.

RESULTS: There were 155(33.4%) participants, who were planning to go abroad for higher education, and 274(59%) had not planned to go out of the country for further studies. Among the study participants, 50(32.3%) participants were planning to move to the United Kingdom, whereas 23(14.8%) participants were planning to go to Australia, 44(28.3%) wanted to move to the US, 10(6.4%) to Canada and the rest 28(18%) had plans to move to any other country.

CONCLUSION: The majority of dental graduates wish to go abroad for their post-graduation. The dentists of Punjab were willing to serve their country, provided the economic and political situations improved.

KEYWORDS: Dentists, Immigration, Salaries, and Fringe Benefits.

INTRODUCTION

Brain drain is a term used for the migration of skilled professionals and labor to another country in search of better living standards, higher salaries, and financial and political stability. This migration has caused a great deal of loss to developing countries, in terms of skilled individuals. Brain drain in health professionals is equally profound as in other professions because of the lack of facilities, jobs, and research opportunities in less developed countries. Similarly, the trend of migration of dental professionals to highly developed regions of the world is becoming a matter of concern in developing countries.

The trend of migration of highly trained health professionals first became a concerning issue in 1940, when a large number of health professionals migrated from Europe to the United States and the United Kingdom. In one of the studies

published by WHO in 1979, the results showed that almost 90% of all migrating health professionals are migrating to mainly five countries; Australia, Canada, Germany, the United States, and the United Kingdom^[1]. Similarly, the trend of migration of dental professionals from developing countries is creating an issue for the health sector in underdeveloped or developing countries. The Asia Pacific region contributes to about 80% of the dental workforce in the region^[2].

The reasons for the emigration of dentists are quite complex. The first culprit in this scenario is the parent country, which fails to provide its skilled dental professionals equal and unbiased opportunities to prosper in their field. Professional development, higher education for a postgraduate qualification, better-paying jobs, and research opportunities are among the major factors leading to the emigration of dentists^[3].

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In most cases, the reasons for the migrated health professionals to never return to their home country include one or more of the following; underprivileged facilities, underpaying jobs, fewer opportunities for professional growth, unfair distribution of post-graduation seats, increased workload, lack of appreciation and motivation, nonexistent research funds by the government, unstable political situations, insecure conditions and lack of better educational opportunities for children. This migration of trained dentists from underdeveloped countries is alarming and global efforts are needed to create policies that address the problem as a whole [4]. Medical migration also has some benefits like international collaboration and the return of foreign expertise and experience [5].

Developing countries are producing technically skilled and trained doctors with less satisfying jobs available, leading to these trained professionals emigrating to their countries [6]. The reason to carry out this study is to determine the cause of dental professionals moving out of the country and leaving behind an ever-increasing gap in their own country, rendering the people of Pakistan deprived of dental services, as well as increasing the burden and cost of the treatment available here.

METHODOLOGY

The study was done in the dental colleges of Punjab, and the duration of the study was one year. The nature of the study design implemented for this research is quantitative (cross-sectional). The questionnaire was distributed both by hand and via digital sources. Data collection was done through questionnaires. The questionnaire was self-constructed and later validated and tested for reliability. A pilot study on 30 practitioners was carried out for this purpose. The Cronbach's alpha of the questionnaire was 0.74.

The digital survey was also utilized for gathering data. Ethical approval was obtained before the administration of the questionnaire from the institutional review board. The reference number of the institutional review board approval letter is UCD/ERCA/20/11at. The sample size was calculated to be 470, and we used a non-randomized snowball sampling technique by asking the willing participants to disseminate the questionnaires to others meeting the inclusion criteria for the study. A total of 464 dental graduates holding the required academic qualification for migration to other countries returned the filled questionnaires to assess the attitude of dental graduates of Pakistan.

The designed questionnaire comprised questions about their demographic details that included their name, age, gender, address, and level of dental education. The questionnaire also comprised questions on respondents' plans for post-graduation, their desire, and their reason to go abroad for studying or settling. The inclusion criteria for this study were dental graduates of public and private dental colleges in Punjab. Exclusion criteria were undergraduate dental students, dentists who are illegible for traveling out of the country for any reason, and those who are not willing to

participate in the study. The study covered what factors motivate and which de-motivate them to move abroad to assess their attitude towards brain drain. Data analysis was descriptive. SPSS (version 26) was employed for this purpose, and the chi-square test was applied to analyze the data. $p \leq 0.05$ is considered statistically significant.

RESULTS

We received a total of 507 responses from study participants, out of which 43 responses were excluded as they did not fulfill the inclusion criteria. The remaining 464 responses were included in the final analysis. A total of 464 participants were included in this study, out of which 250(54%) were males and 214(46%) were females. Among study participants, 142(30.6%) dentists graduated from a public sector dental college, and the remaining 322(69.3%) were from private sector colleges. Post-graduation plans were reported by 287 (61.8%) participants, 153(33.0%) participants responded negatively and 24(5.2%) participants were not sure about their plans.

There were 155(33.4%) participants who were planning to go abroad for higher education, 274(59%) had not planned for going out of the country for further studies, whereas 35 (22.5%) were not sure. Among 155 participants, 50(32.3%) participants were planning to move to the United Kingdom, whereas 23(14.8%) participants were planning to go to Australia, 44(28.3%) wanted to move to the US, 10 (6.4%) to Canada and the rest 28(18%) had plans to move to any other country.

Table-I: Reasons for choosing a country.

Variables	n(%)
Due to family members in the country	124(26.72)
Because of higher reward	120(25.86)
Shorter duration of the training	105(22.63)
Due to affordability	62(13.36)
Due to easy access	53(11.42)
Total	464(100)

After completion of higher education, 327(70.4%) participants said they would return to their home country, whereas 137(29.6%) participants responded negatively. While asked about the factors which may affect their motivation to move back to the homeland after education completion, 169(36.4%) participants answered that low-paying jobs in Pakistan are the main reason for not coming back to Pakistan, 143(30.8%) said the unavailability of jobs would prevent their return, whereas 96(20.6%) participants think that future insecurity is the main reason. While 56(12%) participants were found to be concerned with security issues in Pakistan.

While answering about the factors which would be the motivating factors on deciding to move back to Pakistan, 345(74.3%) participants reported family ties as major contributors. Other factors affecting motivation to move back to Pakistan are given in table-II.

Table-II: Factors affecting motivation to move back to Pakistan.

Factors affecting motivation	n(%)
Low-paying jobs in Pakistan	169(36.42)
Unavailability of jobs in Pakistan	143(30.82)
Future insecurity in Pakistan	96(20.69)
Security issues in Pakistan	56(12.07)
Total	464(100)
Motivating Factors	
Family ties	345(74.35)
Cultural difference	59(12.72)
Religious	41(8.84)
Others	19(4.09)
Moving back to their homeland to serve their people	
National responsibility	277(59.70)
Not national responsibility	148(31.90)
Not sure about it	39(8.41)
Yes	89(19.18)
No	312(67.24)
Not sure	63(13.58)
Cultural differences serve as a barrier to their progress	
Yes	89(19.18)
No	312(67.24)
Not sure	63(13.58)
Migration is causing a drain of national sources	
Fair	264(56.90)
Unfair	200(43.10)
Willing to fill the bond (3-5 years) to serve the country	
Yes	29(6.25)
No	435(93.75)
Factors preventing the migration	
Improved salary package	30(6.47)
Equal opportunities for advanced dental education	38(8.19)
Of the view that factors like (salary, equal opportunities for advanced dental education, meritorious recruitment, and promotion policies, and sufficient funding for research) would help to prevent the migration of dentists from Pakistan	392(84.48)

Table-III: Reasons for going abroad with gender and type of college (graduated from).

Reasons for going Abroad	Gender		Total	Type of College (Graduated from)		
	Male n(%)	Female n(%)		Private n(%)	Public n(%)	Total
High living Standard	20(8%)	17(7.94%)	37	n(%)	Total	37
Better education for Children	10(4%)	4(1.87%)	14	8(2.48%)	6(4.23%)	14
Safety Concerns	16(6.40%)	7(3.27%)	23	11(3.42%)	12(8.45%)	23
All of the above reasons	204(81.60%)	186(86.92%)	390	278(86.34%)	112(78.87%)	390
Total	250 (100%)	214 (100%)	464	322(100%)	142(100%)	464
Chi-Square value	4.40			6.74		
p-value	0.221			0.080		

Table-III presents the association of reasons for going abroad with gender and type of college from which study participants graduated. Results showed no significant association between gender and type of college graduates with reasons for going abroad. i.e. Gender (p-value=0.221) & type of college (p-value=0.080). Table-IV presents the

association of reasons for moving back to Pakistan with gender and type of college from which study participants graduated. Results showed no significant association between gender and type of college graduates with reasons for moving back to Pakistan. i.e., gender (p-value=0.338) and type of college (p-value=0.849).

Table-IV: Reasons for moving back with gender and type of college (graduated from).

Reasons for moving back to Pakistan	Gender		Total	Type of College (Graduated from)		
	Male n(%)	Female n(%)		Private n(%)	Public n(%)	Total
Family Ties	193(77.20%)	152(71.03%)	345	242(75.16%)	103(72.54%)	345
Desire to serve your country	10(4%)	9(4.21%)	19	14(4.35%)	5(3.52%)	19
Cultural difference	30(12%)	29(13.55%)	59	39(12.11%)	20(14.08%)	59
Religious difference	17(6.80%)	24(11.21%)	41	27(8.39%)	14(9.86%)	41
Total	250 (100%)	214 (100%)	464	322(100%)	142(100%)	464
Chi-Square value		3.364			0.799	
p-value		0.338			0.849	

DISCUSSION

This study aims to find the causes of the migration of dentists from Pakistan to highly developed countries. According to our survey, 71% of the participants plan to go abroad for higher studies, and the major countries of choice are Canada, the United Kingdom, and Australia. However, in a survey conducted in Romania in 2017, the preferred countries for emigration are Germany (34.1%), France (20.0%), and Great Britain (19.6%)^[7].

In a study conducted at King Edwards's medical university, Lahore, 60.4% of the medical students and house officers intended to go abroad for specialty training^[8]. This difference may have arisen because of the difference in the socioeconomic status of the two groups, as present study was conducted in a private dental institute, whereas the other study was conducted at a public sector medical university.

In another study conducted at Wah medical college in 2019, 52% of medical students were not willing to go abroad^[9]. This finding is somewhat similar to present study result, which showed that 59 % of dental graduates had no plans for moving abroad. Another study reported that nearly one-quarter of medical students from Asian and sub-Saharan African countries have the intention to move to other countries five years post-training^[10].

A survey conducted in Karachi, Pakistan, in 2008 showed that only 10% of their respondents wanted to settle abroad post-training^[6]. Medical and dental students studying in private medical colleges usually belong to well-off families who have enough resources to travel abroad for specialization. 97% of our participants considered higher living standards and the safety of the family as a major pull factor towards the west. Higher-level job satisfaction was reported as the main attraction for the majority of the participating dentists in a study carried out in two private and two public sector dental colleges in Karachi, Pakistan, in 2016^[11].

More than 50% of the participating dental practitioners said that desire to serve the country is a local pull factor for them^[11]. Around 60% of the participants in present study showed a desire to serve their homeland after completing their post-graduation from a foreign country. In Pakistan salaries of postgraduate medical or dental trainees are very poor, and there are very limited opportunities available for them to avail themselves and excel in their careers.

High-paying jobs and better opportunities in developed countries are other pull factors for young dental graduates. These results are in line with the previous studies, which stated that financial factors, poor working conditions, and lack of training opportunities are motivating factors to move abroad^[8]. Among the local pull factors that would prevent dental migration to other developed countries includes better salary packages, equal opportunities for advanced dental education, meritorious recruitment and promotion policies, and sufficient funding for research, all of these combined will help to prevent the ever-growing trend of moving to a well-developed country.

This physician and dental brain migration are causing an unfair drain of the country's resources. These findings coincide with the findings in previously carried out studies indicating that reviewing pay structure, improving the quality of training in Pakistan, and making the work environment more conducive to postgraduate trainees are a few steps towards dealing with the migration of bright medical and dental students from our country^[8]. Most dentists migrate to Australia, Canada, Germany, the UK, and the USA because of workload stress, workload violence, insecurities, and deficient career growth^[12].

Another study showed that the shortage of physicians in the destination countries is a pull factor for the migration of physicians from other countries^[11]. In contrast to this, present study showed that the major motivating factors for the majority of the participants for moving abroad are better salaries and more opportunities for professional growth.

A study done by Silvestri et al^[13] previously showed that the international migration of medical students was not influenced by the presence of extended family in the recipient country however, in the present study, 17.3% of participants said that they would prefer a country where one or more family members are residing already^[14]. Movement from low and middle-income countries who seek education and training in the United States might be worsened by the introduction of merit-based immigration policies, and individuals will stay once they have completed their training^[15]. The emigration rates to Eastern Europe have doubled, from 2.9% in 2004 to 6% by 2014^[16]. Providing medical education in the home country has an advantage over providing training overseas by tailoring experiences to local conditions and strengthening participants' ties to the native country^[17].

CONCLUSION

Young talented professionals/dentists are intended to move to other countries as a result of economic problems, political issues, and psychosocial conflicts, as well as due to family or financial interests. More opportunities for post-graduation and better living standards are also reasons for dentists moving abroad. The dentists of Punjab were willing to serve their own country, provided the economic and political situations improved in Pakistan.

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Author's Contribution:

Arooj ul Hassan: Substantial contributions to the conception and design of the work.

Naiha Muzamil: Acquisition, analysis, or interpretation of data for the work.

Mehrin Wajahat: Drafting the work and revising it critically for important intellectual content.

Zunaira Iqbal: Manuscript writing and interpretation of data for the work.

Obaid Bajwa: Contributed to acquisition of data, reviewed the article and gave final approval.

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