Factors influencing the migration intention of health professionals in low- and- middle income countries: Critical review with a theoretical model

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Abstract

Objective Migration of healthcare workers could result in shortage of human resources and rising inequalities in service provision in resource poor countries. The aim of this review was to determine the factors influencing the migration decisions of medical and dental graduates migrating from low- and middle-income countries as well as introducing a practical model for health professional's migration.

Methods Google Scholar and PubMed were searched together with relevant journals for English studies from January 2005 to January 2020. The original studies which evaluated the motivational factors of dental and medical graduates migrating from low- or middle-income countries were included. The migration model was developed by investigating the factors and frameworks of selected studies.

Results Twenty-five articles met the inclusion criteria. Push and pull theory was the most popular way to describe the driving factors of migration. These factors were classified into three: (i) macro-, (ii) meso-, and (iii) micro-level with eight key domains. Poor income, unfavorable socioeconomic situation, political instability, lack of professional and educational opportunities together with family and personal concerns are found as strong common reasons perpetuating migration.

Conclusion Despite the fact that health workers migrate for different reasons, they follow a same route for decision to stay or leave their home countries. Unfulfillment of expectations in mother land in addition to media reconstructed reality of life in foreign land can develop a positive attitude for better quality of life improvement after migration. Once individuals could overpass their national identity and barriers of migration, the final decision toward migration would be more feasible.

Introduction

Migration as a global phenomenon that could be highly motivated by improving individual's perceptions about better opportunities and quality of life in other affluent countries.[1] In 2018, about 257 million people in the world migrated from their home lands, half of them migrating from low- and middle-income countries (LMICs).[2] Migration of healthcare workers is one of the most significant reasons contributing to drain of human resources from healthcare systems particularly in LMICs.[3] Human resource as a significant and key part of health systems can influence the quantity and quality of healthcare services.[4] World Health Organization (WHO) raised concern about a global shortage of 18 million healthcare workers by 2030, which might have additional negative effect on resource poor countries.[5] Active recruitment of healthcare workers, mainly from LMICs have been the compensation strategy of some high-income countries.[6] About 25 percent of physicians working in the USA, Canada, Australia, and the UK are international medical graduates, with half of them having migrated from low-income countries.[7] Australia is classified as a country with highest number of foreign dentists between OECD countries.[8] One out of four dentists in Australia is an international dental graduate mainly from developing countries.[9]

Decision for migration can be influenced by various factors mostly described with a simple model of push and pull, defined as factors driving people away from their home country and factors attracting them by a foreign country.[10] Financial incentives, professional development, and better quality of life were indicated as the main driving factors for healthcare workers migrating from LMICs.[11] The most significant push factors, as reported by South-African doctors, were insecurity, high level of crimes, and racial conflicts.[12,13] Ambition of working and studying in a country with a developed healthcare system were among the most significant pull factors influenced healthcare workers' decisions for migration to the UK.[14] More than half of the Iranian health workers who intended to migrate were concerned about structural and professional factors such as unfavorable educational environment and inter-professional inequity.[15]

Healthcare worker migration could influence both source and destination countries. However, the source countries are most affected by its negative impacts due to loss of skilled human resources.[16] This could influence the quality and quantity of healthcare provision, increasing workload for the remaining workforce along with healthcare inequalities especially in deprived area.[17] In 2010, WHO introduced a code of practice for moral guidance of recruiting the workforces for health sector.[18] In this code, member countries were encouraged to collaborate in improving research programs about migration of the healthcare forces.[18]

Given the importance of migration of physicians and dentists on global burden of disease as the key members of

healthcare provider teams, studies focused on rate and reasons of health professional migration through modeling were limited. Thus, through this study we aim to review available literature to model the factors affecting migration of physicians and dentists from LMICs who act as a supply source for overseas doctors.

Materials and Methods

A critical review was conducted by defining the scope of the review, identifying the sources of relevant data, reviewing the literature, and applying the literature to the present study.[19] The Population, Issue, Context, Outcome (PICO) elements were defined and variations and combinations of keywords were used by appropriate Boolean operators (Table 1).

Electronic databases such as PubMed, Google Scholar, and relevant Journals were systematically searched for English language publications from January 2005 to January 2020. The inclusion criteria were: (1) Studies stated factors affecting migration decisions of physicians and/or dentist. (2) The study participants were from a low- or middle-income country. (3) Original research both qualitative and/or quantitative that assessed dental and/or medical graduates among their participants. Articles with mixed source countries including high- and low- or middle-income countries as well as studies assessing mobilization of physicians and dentists within European and other high-income countries were excluded.

Titles and abstracts were screened by two authors (SA and MJ) for possible inclusion in the study following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines.[20] Appropriate studies were assessed with regards to the inclusion and exclusion criteria. Full texts of selected studies were carefully shortlisted regarding the eligibility criteria and methodological aspects. Original articles investigated the migration of dental or medical graduates from low- and middle-income countries or proposed a model of migration were included.

After reviewing the full texts, all authors were involved in analysis and reaching consensus on the factors emerging from the data. The influencing factors of migration categorized into macro- (national factors), meso- (professional factors) and micro- (personal factors) levels.[21] Two reviews and one study of dentists' migration were also added to our results because of their useful data and models. After explaining frameworks and models of included studies and writing our critics, we introduced a theoretical model of migration to explain how physicians and dentists decided to migrate.

Results

From 1117 studies identified through electronic searching, 272 related abstracts were considered for further evaluation after applying the eligibility criteria. By reading 74 full texts, a total of 25 studies met the criteria to be included in the review (Fig. 1). An overview of numbers of studies with regards to the source country, type of study. and professional groups participated in the study were provided in Table 2.

The selected studies reported different push and pull factors but they were mostly under common key domains. All domains were categorized into three groups of macro-, meso-, and micro-levels based on the framework of Young's model and illustrated in Table 3.[21] Macro-level factors related to national factors include health system, political, economic, and social factors. Meso-level factors included professional specific factors focusing on training and career opportunities and job condition. Micro-level factors pointed to personal factors and individual attitudes toward migration including personal fulfilment and family factors. Professional factors including training and job progression opportunities as well as higher income were the most reported factors driving migration. Most of the studies mentioned motivational factors in a descriptive way reporting push and pull factors as positive and negative factors of origin and destination countries. Overall, three original studies were found presenting a conceptual or theoretical framework about migration of dental or medical graduates, which are discussed in the following.
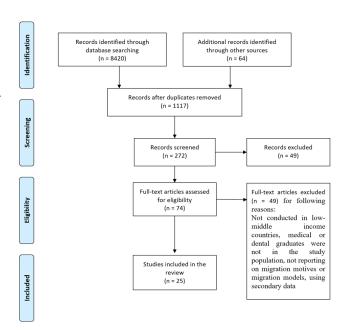

Fig. 1 **The paper selection process based on PRISMA 2009 flowchart.**

Table 1. **The population, issue, context, outcomes (PICO) and the related keywords of the study**

The population, issue, context, outcomes (PICO)		Main keywords
Population	Medical and dental graduates	Health profession or medical or medicine or doctor or dentists or dental or oral health
Issues	Migration motivations	Migration or immigration or brain drain
Context	Low- and middle-income countries	Low income or middle income or developing
Outcomes	Migration model	Model or modelling or framework

Table 2. Numbers of included articles by their source country, World Bank income groups, type of study and type of study participants.

Source country (WHO regions)	World Bank income groups	Type of study	Professional groups
Middle East and North Africa: 7	Low income: 3	Qualitative study: 8	Medical graduates: 16
South Asia: 7	Lower middle income: 11	Quantitative study: 13	Dental graduates: 1
Sub-Saharan Africa &	Upper middle income: 11	Mixed methods: 4	Health workers: 8
East Asia and Pacific: 9			
Latin America and the Caribbean: 2			

Table 3. Migration motives of dental and medical graduates in low- and middle-income countries.

Domain	Factors and references
Macro-level: National factors	
Health system	Poor income[22-35], selective system of students and academic members[34], oversaturation of job market[25]
Economic	Poor economic condition and devaluation of national currency[15,30,34], high costs of living[31,36]
Political	Insecurity and high level of crime[12,22,25,30,32,34,36-40], political instability[22,25,28,29,31,39,41,42], terrorism[27], freedom of expression[34,40], high level of corruption[12,25,36,9]favoritism[27,28,39], lack of meritocracy[34], poor law and order enforcement[35]
Social	Gender inequalities[34], ethnic and racial discriminations[12], low quality of social services, culture of migration and social pressure[22,24-27,40,41], poor social rights[25], religious conflicts[27,30,34]
Meso-level: Professional factors	
Educational environment and Professional opportunities	Unavailability of enough post graduate training opportunities[22,24,25,28,29,31,35,39-44], limitation of positions in a particular specialty and academic career[25], unfair competition for training position[25], inexplicit curriculum[25,32], poor research opportunities and networking[15,25,28,34], limitation on career opportunities[22,27,32,33,35,37,39,41,45], poor access to enhanced technology[23,34], role modeling of instructors[24], poor quality of training[26,27,30,34,38], lack of using optimal knowledge and experiences of graduates[34]
Work conditions	Poor work environment and infrastructures[15,22,26-29,31-33,36,37], staff shortage[12,25], workload[25,27,32,33,37], job dissatisfaction[22,26,27,32], risk of contracting a serious illness[12,22,37], poor resource availability and equipment quality[12], management issues and appreciation[27,28], poor work ethos[12], inter-professional inequity[15,34], professional prestige and respect for foreign-trained professionals[15,25,32,36,45]
Micro-level: Personal factors	
Personal fulfilment	Adventure[37], better quality of life[15,22,27,43], financial gain (Welfare)[37,43,45], learning a new language[34], desire to settle abroad[15,26,27,34], desire to change immediate circumstances[37]
Family concerns	Better future and education for children[15,23,28,34,36,37,39], partner or parent decision for migration[27], having a family living abroad[27,32,38,39,41,42]

Oberoi et al. addressed the migration reasons of South-African doctors through an adopted conceptual framework which divided push and pull factors into two "endogenous" and "exogenous" categories with regards to the factors in or out of the health system and health profession.[22] The results show that low wages, lack of job satisfaction, lack of professional development, poor working conditions, and risk of contracting AIDS were among the most significant endogenous factors of migration.[22] While, lack of quality of life, high level of crimes, civil conflicts, political instability, and social pressures were counted as the most significant exogenous factors.[22] In this study "stick" factors – the reasons why a person decided to stay in a home country before considering push and pull factors of migration – and "stay" factors – the reasons why a person decided to stay in a foreign country – have also been investigated.[22] The stay factors referred to further education and pursuit of specialized qualification along with children's familiarity with school setting.[22] Thus, considering stick factors as important factors before looking at push and pull factors of migration would be beneficial.

Akl et al. drew a model through investigating the reasons behind Lebanese medical students' intention to migrate.[41] Factors playing independent and significant roles in migration were highlighted in the model including residency training, future professional career, and political conditions.[41] Societal expectations, marketing of studying abroad advertising by doctors with experience of training abroad and prevalent culture of migration among family and friends living abroad or residents retraining abroad were also among the most important driving factors of migration.[41] The factors inhibiting

migration from countries of origin to countries of destination were termed "repel & retain" factors which were classified into four: (i) individual, (ii) social, (iii) occupational, and (iv) political categories.[41] The inhibitive role of certain barriers such as financial problems, equivalency exams, and visa process as well as the role of social pressure and marketing of abroad training as mediating factors affecting the migration decision of medical graduates have been highlighted.[41] This model draw attention to the barriers and facilitators which play a pivotal role in the final decision of migration. Although, the findings could not show a clear causality relationship between push–pull factors and the decision of migration.

In a study of factors motivating dental practitioners migration from Pakistan, local and foreign push and pull factors were reported for source and destination countries, respectively.[35] Significant local push factors were dissatisfaction with law and order, salary, job opportunities, while family responsibilities reported the most important local pull for migration.[35] Meanwhile, enhancing knowledge and skills, financial gains, and better working environment considered as major foreign pull factors.[35] Participants indicated their concern about foreign push factors such as racism and intense competition.[35] The time relationship between individuals 'attention to motivational factors and inhibitors is not well defined. It is not clear when a person thinks about push and pulls or barriers and facilitators of migration.

To reach a common language, we introduce a model considering mentioned factors and frameworks in addition to further steps a person should take in order to reach a final decision for migration (Fig. 2). First of all, individuals have usually started weighing up the push and pull factors of home and destination countries after experiencing a major dissatisfaction in their own social, political, economic, and professional life. Although some personal reasons such as migration of other family members or a sense of adventure could be exceptions. When needs and desires which build a profile of expectations are not fulfilled in home countries and on the other hand, marketing abroad and media reconstructed reality of life in destination land set up a high perceived quality of life after migration, a person would hold a positive attitude toward migration. If individuals' value framework including national identity and social commitment are not strong enough for retention, the intention for migration leads to an important decision of migration. Not to mention, there are some migration barriers on accreditation and equivalency process, job opportunity, financing, and ability to obtain visas which may affect this decision. As if the barriers pull over, migration could be facilitated or expedited. It is noteworthy to mention that globalization and understanding better opportunities in other affluent countries may cast a shadow over the whole process of decision making in migration of health professionals.
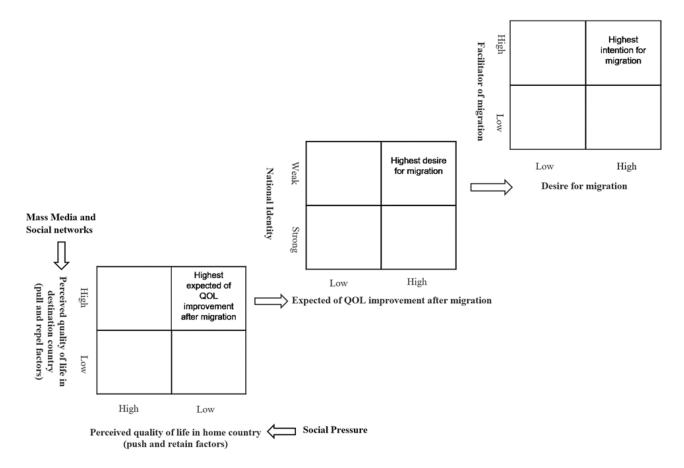

Fig. 2 **A theoretical model for dental and medical graduates migrating from low- and middle- income countries.**

Discussion

Physicians and dentists' migration from LMICs could not only affect health systems regarding healthcare provisions and quality of care, but also lead to some inevitable losses of human and financial resources. In this review, some significant motivational factors of migration such as national, professional, and personal factors were categorized into three levels of macro, meso and micro, respectively. Most of the articles explained the migration reasons in a descriptive way using the push and pull model of migration. We tried to organize driving factors by adding some time sequences between different steps of the migration process as illustrated by a schematic model.

Dohlman et al. used Maslow's hierarchy of human needs to reach a common language on physician migration.[46] In this model, the motivating factors were categorized into five levels: (i) physiological needs, (ii) safety needs, (iii) social needs, (iv) esteem needs, and (v) self-actualization needs.[46] From 19 included studies, physical and financial security needs (level 2), a desire to improve educational or professional opportunities (level 4), and "being all you can be" (level 5) were mentioned most.[46] The lower level of needs is considered more important as it must first be met in order for a person to think about the next levels while a person could reach esteem needs without having basic needs. Moreover, the discrimination between the esteem needs and self-actualization in this study is not clearly defined. While the desire for educational and professional development opportunities were considered equivalent to self-esteem, the research opportunities and career opportunities were mentioned for self-actualization needs. It should be a better detailed explanation for categorizing each factor. The positive point would be the emphasis on the role of higher level needs in migration decisions of elite health workers as they could easily afford the basic needs.

Blacklock et al. addressed the health workers' reasons for migration from Africa by systematic review of qualitative studies.[47] Push factors were divided into five categories: (i) economic, (ii) workplace, (iii) health system, (iv) others' understanding, and (v) expectations and social setting. The pull factors were divided into two groups of "attractiveness of working and living abroad through exchange of information" and "vivid improvements in workplace, economic, social setting, and family factors".[47] The study introduced six lines of arguments through meta-ethnographic synthesis that include: (1) Struggle to realize unmet material expectations of self, family and society, 2) strain and emotion, interpersonal discord, and insecurity in workplace, 3) fear from threats to personal or family safety, in and out of workplace, 4) absence of adequate professional support and development, 5) desire for professional prestige and respect, 6) conviction that hopes and goals for the future will be fulfilled overseas.[47] This study contributes to the current knowledge of reasons behind migration of health workforce by providing new theoretical explanation of migration through meta-ethnographic synthesis. The study is not only limited to listing the typical motivating factors but also the six lines of arguments draw our attention to sociopsychological aspects of migration.

Dentists may consider different factors for their migration regarding the private nature of their practice and duration of dental training compared to medical doctors. Balasubramanian et al. conducted a study on international dentists migrating to Australia.[9] By taking the conceptual model known as

"explanatory framework" for this study, interest in migration was illustrated through four subordinate themes: (i) "being good at something", (ii) "feelings of being let down", (iii) "a novel experience," and (iv) "influenced by someone". A superordinate theme called, "global interconnectedness" was found common among the participants.[9] This model emphasizes on complicated nature of migration stimuli and signifies the role of social networks and communities in the globalized world. Higher levels of needs, desire for respect and feelings of being let down, reminded us of the different desires of highly skilled individuals which should prioritize in planning strategies for migration. In our model, we also try to mention the role of social pressure and media on marketing abroad and establishing the culture of migration in developing countries. However, detailed push and pull or repel and retain factors are not illustrated in the model mainly due to the country specific nature of these factors.

Conclusion

In this study, driving factors of migration were classified into three levels of macro, meso and micro and eight domains. Factors such as the desire for higher income, better job, educational opportunities, security, and better quality of life for children were mentioned most. Low perceived quality of life in source country which is highly affected by social pressure besides high perception of quality of life in destination country mostly mediated by media reconstructed reality, can push a person into thinking about migration. A weak national identity and high capacity for overcoming migration barriers such as financial support can lead health professionals to leave their home countries.

Acknowledgments

Conflict of Interest Disclosure

The author(s) declared no conflicts of interest in this study.

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