Exploring the Global and Algerian Crisis of Physicians Emigration

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Abstract:

Physicians emigration is a phenomenon that has been growing during these decades. The accumulation and interplay of push and pull factors play a vital role in its emergence. Physician' emigration follows the logic of brain drain as a selective migration process. The current study endeavors to address the reality of the de facto situation of physicians' mobility across countries so that it can be comprehended and predicted, then alleviate the burden of losing physicians. This paper attempt to put this phenomenon in an international and Algerian context and to shed light on its impacts. To achieve this, a descriptive analysis of the current data was conducted. The study concludes that physician' emigration represents a crisis that affects countries of origin, mainly those that suffer from health system fragility, including Algeria. The negative repercussion of this external emigration makes it imperative to hamper its rapid pace through migration governance. This also calls for building a database to track physicians' destinations and the proportion of their mobility.

Keywords: *International physicians emigration; brain drain; international crisis; Algerian health sector.*

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Introduction:

Health professionals (HPs) serve as the linchpin and building blocks of any healthcare system. This was evident globally during the COVID-19 pandemic, where the most reported reason for the disruption of health services was the acute shortage of HPs (WHO 2021). With the increasing global recognition of the pivotal role of HPs, the World Health Organization (WHO) estimates that about 75 countries face a critical health workforce shortage and that the global shortage of physicians, nurses, and midwives exceeds 2.4 million (WHO 2006). According to the same report, the vast majority of countries with serious deficiencies in HPs are situated on the African and Asian continents.

It is often pointed out that the main reason for the deficit of HPs in African and Asian countries is the emigration of physicians and nurses to Western countries, especially to English-speaking regions: the United States of America (USA), Canada, Australia, and the United Kingdom (UK), as well as to other member states of the Organization for Economic Co-operation and Development (OECD) (OECD 2007; Pond and McPake 2006).

The phenomenon of physicians emigration (PhE) raises widespread concern among researchers and policymakers at the global level, given the insufficient supply of HPs in vulnerable countries, or the so-called source countries, which possess only 3% of the world's HPs even though they represent 11% of the world's population and bear 24% of the global burden of disease (WHO 2006). Nonetheless, there is controversy about the benefits and negative consequences of this phenomenon

Algeria is no exception. Despite the improvements and great efforts progressively elaborated by the state to develop the health sector, there are significant losses of this human resource due to emigration to rich countries. Many factors play a critical role in exacerbating this phenomenon and pose a noticeable threat to the health system. notwithstanding, only a few studies have shed light on this dilemma at the Algerian level.

Through this study, we endeavor to identify the status quo of PhE by asking the following question: **What is the reality of PhE at the Global and Algerian level**?

To tackle this question, we analyzed the flagship reports of international organizations concerned with emigration issues and reviewing the existing literatures related to medical brain drain, including PhE. The paper was divided into four sections. The first section provides a brief conceptual prelude to the study. The second section described the phenomenon of PhE within the International level and discussed it in terms of repercussions and management, and finally the paper cast light on PhE in the Algerian context (as a donor country).

1. Conceptual prelude to international physicians emigration

The current study encompasses the following key concepts which need to be clarified:

a. International migration:

International migration is defined as: “people’ mobility from one country to another one for the purpose of acquiring a job or residence or to seek asylum from oppression, either temporarily or permanently” (Stilwell et al. 2003). Thus, international migration may be boosted by labor market law in the global economy, and also it results from coercion during wars, political repression, environmental disasters, social and economic disparities between countries, as well as cultural and historical ties, and social networks within specific regions

b. Brain drain

The concept of brain drain was originally coined by the British Royal Society to indicate the emigration of scientists and technologists from the UK and Canada during the 1950s and 1960s to the US to seek better opportunities (Balmer, Godwin, and Gregory 2009). It is also defined as “the migration of highly skilled workers such as doctors, engineers, teachers, and technicians from a given country to another” (Yamin and Luna 2016). According to this, this type of migration is external, where people with higher qualifications are being pushed or pulled to a particular country as a selective process.

c. International physicians emigration:

No specific definition is outlined in the health or migration literature for the concept of international PhE, and this may be attributed to its complexity and its cross-disciplinary aspect. However, international PhE as a facet of brain drain is defined as “the migration of healthcare workers in search of professional and educational improvement, higher wages, and a better enhanced standard of living, often in a stable social and political climate” (Dodani and LaPorte 2005).

d. Migration governance:

Migration governance refers to the structures, strategies, policy-planning procedures, and mechanisms of decision-making with the aim of regulating the international mobility of people (Foley 2023). It relates to all dimensions of migration management to alleviate it and mitigate its effects, taking into account the right of individuals to emigration as a human right.

2. Physicians emigration within the international context:

a. Patterns of emigration:

Economic prospects in wealthy countries attract alumni and newly trained doctors from low- and middle-income countries. Despite the increasing number of medically graduated doctors in less developed regions, many developed countries deliberately recruit them as a backup plan to fill the vacuum in their health system and to compensate for the longstanding scarcity of locally trained staff.

Subsequently, the mass exodus of physicians seems to be unwaning, leaving their country of origin with intractable problems.

As a strategy, physicians use rational reasoning when choosing their destinations, opting to emigrate to regions where they anticipate better conditions vis-à-vis their countries of origin. Note that, for instance, Zambian physicians emigrate to South Africa, while South African physicians emigrate to the UK, and the UK physicians emigrate to Canada, and the latter's physicians emigrate to the USA. Therefore, it seems that the USA is at the top of this pyramid because it is the only country in which the net migration balance of HPs is positive compared to all other countries (Mullan 2005). According to this, medical brain drain is not only about emigration from developing countries to more developed countries, but migration between developed countries as well. However, poor and developing countries incur the worst outcomes.

Although PhE is a ubiquitous and global phenomenon, it is steadily increasing in countries with a physician density of approximately 17 per 100,000 populations to countries with a density of 300 per 100,000 populations (Dovlo 2005). this is the paradox of reverse healthcare, where countries that need doctors get the least. To achieve the Sustainable Development Goals (SDG), the WHO recommended a density of skilled HPs of 557 per 1,000 individuals (WHO 2016).

According to the Regional Report on Arab International Migration (2014), many Arab countries are encountering a palpable prevalence of PhE including Iraq, Jordan, Lebanon, Tunisia, Morocco, Syria, and Sudan. Physicians from these countries are often employed within research centers in developed countries, such as France. This is considered an enduring depletion of the human resources of the Arab region, especially given the ongoing conditions and crises they are experiencing.

In 2019, on average, about 18% of physicians in OECD countries obtained at least their first medical certificate from a country other than the OECD, and this proportion was 15% higher than it was two decades ago (OECD 2019). On the other hand, for example, in the US, the number of emigrant-qualified physicians who passed the third step of what is known as "the United States Medical Licensing Examination" (USMLE) examination (the starting point for full registration to practice as a physician in the US) escalated by 70% between 2001 and 2008 (OECD 2010). In a study conducted by Hagopian et al. (2004), it was found that physicians who received their medical training outside the US surpass 23% of 771,491 physicians, most of whom (64%) are from less developed countries.

In the same period between 2001 and 2008, temporary emigration of physicians increased twice in Australia and by 40% in Canada. In these two countries, regulations on the permanent emigration of doctors have been mitigated; subsequently, the inflows have increased rapidly. The influx of foreign physicians with long-term permits has also increased significantly in Switzerland (+70%), especially from Germany. Conversely, the number of new registrations of

physicians emigrating from the UK has been falling since 2003, when it hit its highest level at around 14,000. In 2008, slightly above 5,000 new registrations were documented. However, this still makes the UK as the second-ranking destination country for overseas-trained physicians subsequent to the US (OECD 2010). Currently, the UK has 356,506 licensed doctors; 146,984 (36%) of them are trained abroad. Of these, 110,929 (75.4%) trained outside the European Economic Area (EEA). Additionally, according to Eaton et al. (2023), the 57 most impoverished countries trained 78,823 of the UK's doctors.

Between 2014 and 2021, the African region had a physician density of 2.9 per 10,000 inhabitants, the Southeast Asia region 7.7, the Americas region 24.5, the Eastern Mediterranean region 11.2, the European region 36.6, and the Western Pacific region 20.9 (WHO 2023). As a realistic comparison between a developed country and a poor country, in Canada, for example, one woman out of every 11,000 dies due to complications from pregnancy and childbirth. In the same time, in Niger, where high fertility amalgamates with destitution and a feeble healthcare system, 1 of 7 women die from pregnancy-related causes (Serour 2009). This means unequal distribution of human resources, and unequal access to health care across the world. Areas enduring the burden of disease persist to have the least proportion of the HPs to deliver adequate health services.

Labonte et al, (2004) presented the current trends of PhE from developing countries to wealthy countries in the context of globalization:

- 26% of all emigrating physicians relocate from less developed countries to wealthy countries. However, less developed countries receive only 11% of relocating physicians.
- 50% of Pakistan's graduated doctors in any year emigrate to the West; only a few repatriate.
- 60% of Ghanaian physicians expatriated during the 1980s; over 21,000 Nigerian physicians emigrated to practice in the US; and during the 1990s, Zimbabwe lost approximately 75% of its physicians.
- Over 35% of trained HPs in Africa's poorest 20 countries have departed to work in North America and the EU.
- 75% of Zambian physicians have left the country in recent years to work in South Africa or other developed countries.
- Over 80% of all graduated doctors from South Africa moved to the US, UK, and Canada, at a huge annual cost to South Africa.

In fact, this era marks an ongoing, fierce competition to acquire adequate physicians, even at the expense of other countries. Most developing countries must cope with this increasing demand for HPs and comprehend that globalization has incorporated significant change into the global market; otherwise, developed countries, by default, will continue their current practices of depleting their

resources. What worsens the situation is that the majority of emigrated physicians who permanently repatriate to their original countries are exceedingly small (Eaton et al. 2023).

b. Factors influencing physicians emigration:

Factors of emigration are often grouped according to a “push-pull” model theory developed by Everett Lee (1966). Push factors are unfavorable forces rooted in the source countries that ultimately lead one to change his residence, while pull factors are the conditions that encourage and attract doctors to immigrate to another country for the purpose of practicing medicine. The following are the main factors that push and pull physicians to emigrate abroad:

- **Pull factors**

Better economic opportunities, job prospects, further education, better health system, availability of facilities, better structure of medical education, better income, availability of public security, better family prospects, early retirement, desire to gain international work experience, improved lifestyle, working conditions Better, greater access to modern technology, political stability, quality of life, better working relationships, better leadership in the health sector, competent health service managers, and a reasonable workload (Apostu et al. 2022; Buchan and Perfilieva 2006).

- **Push factors**

High level of crime, dissatisfaction with remuneration and working conditions, violence, political instability, lack of future prospects, lack of professional and educational opportunities, low salaries, low quality of training, poor working environment, professional dissatisfaction, lack of professional security, high taxes, inadequate diagnosis equipment, dissatisfaction with one's life, migration culture (Apostu et al. 2022; Buchan and Perfilieva 2006).

As Buchan and Perfilievia (2006) illustrate, people are incentivized to move for different motives, and the mix of migrant HPs may differ among regions and times. Migration is not just unilateral mobility from origin to destination; HPs may move from one country to work in another and then either turn back to their country of origin or forge ahead to a third. They may even choose to live in a specific country and cross a national frontier regularly to work in another. Improvements in transportation, communication, and globalization increase this mobility.

In light of this, where physicians have high qualifications and capabilities to emigrate, countries from which physicians emigrate need to achieve better working and training conditions if they want to retain this human resource on which health systems are based and contribute to economic growth.

2. International physicians emigration from repercussion to management:

a. The polarized vision of physicians emigration

Until recently, there is still a controversy among researchers about the negative and positive effects of PhE, as an embodiment of the conflict in visions between the nationalist and internationalist approach regarding emigration. Below are some of the repercussions of PhE:

- **Positive effects:**

Advocates of international mobility for physicians argue that it has benefits for the emigrants themselves and for their country of origin. These benefits can be summarized as follows (Aluttis, Bishaw, and Frank 2014; Blouin, Drager, and Smith 2005):

- Promoting and developing professional opportunities for doctors;
- The continued flow of financial remittances, as these remittances have an impact on the overall economy as they increase investment and local savings and enhance the development of sectors;
- Ensuring the transfer of technology, entrepreneurship, and knowledge;
- Building human capabilities. It supports, among other things, infrastructure development;
- Collaborative partnership between immigrants and local professionals;
- Creating human capital and improving the skills of returnees, for this reason, PhE is treated as brain gain.

Hidalgo (2013) as an advocate of PhE, supports his argument with empirical studies, for example, the Clemens (2007) study, which highlighted that Africa's generally low employment rate and poor public health conditions are the result of factors completely unrelated to international movements of HPs. Accordingly, there are other factors that are related to the country's infrastructure or other conditions, such as the level of education, hygiene, distribution of doctors, etc.

- **negative effects:**

The literature indicates that the PhE negatively affects the source countries, and therefore it represents a threat to national health security. These effects can be summarized as follows:(Aluttis et al., 2014; Blouin et al., 2005)

- Depletion of human capital in source countries;
- Minimizing the potential for economic growth;
- The high level of inequality and poverty in those countries;
- Negatively affect the well-being of individuals in source countries;
- The country's inability to provide good training for new doctors;

- Collapse of the research capacity of medical schools;
- Obstructing development. Doctors are an important human resource within economic development.
- Low morale and commitment among other professional workers.
- Loss of financial investments in physicians' education: for example, resource-poor countries in Africa experienced losses of $2.17 billion in investment returns for doctors currently working abroad, while major destination countries experienced gains of $2.7 billion and $846 billion, respectively (Ifanti et al., 2014).
- Saluja et al. (2020) forecasted financial costs for less developed countries due to the growing maternal mortality and under-5 mortality related to PhE were $15.86 billion annually.

Brock (2013), as an opponent of PhE, argues that there are deep losses that are endured when a high proportion of this human capital is absent. There is a deleterious economic aftermath: revenue shortfalls, tax losses, and the poor are negatively affected. There are knowledge spillover losses. One of the most devastating repercussions of PhE in poor and developing countries is the way it erodes the quality of institutions and consequently the losses that are sustained for fostering advantageous development.

b. Physicians emigration management:

The increasing demand for physicians' recruitment is nothing new. This phenomenon has emerged in line with competitive changes in the global market. Therefore, international migration of physicians must become a major component of health policy today. Although there is no single, stand-alone international organization regulating migration, in the absence of a comprehensive global framework for managing migration related to HPs, the International Labor Organization (ILO), the World Health Organization, the World Bank (WB), and the International Organization for Migration (IOM) discuss the migration of HPs as part of their broader policy. These organizations have introduced measures and initiatives to build capacity and enhance cooperation between donor and source countries.

For example, given the complexity of this phenomenon, the WHO has suggested a three-level strategy (WHO, 2006, p. 101):

1. In source countries,
2. In receiving countries and internationally,
3. Alleviating the negative aspects of migration.

Thus, this strategy aims at managing international medical migration, including physicians. Within the first level, it emphasized providing physicians with

appropriate training in favor of donor countries and facilitating physicians return to their country of origin after working abroad.

As for the second level, countries must take into account the well-being of immigrant physicians and respond to the negative consequences associated with the vacuum physicians leave behind in their source countries.

Regarding the third level, it focuses on ensuring a fair treatment of immigrant workers, embracing ethical recruitment policies, and promoting human resources in donor countries.

In 2010, the WHO established a global code of practices for the recruitment of doctors as part of what has become known as global health diplomacy for the purpose of addressing the growing crisis of health workers' emigration across the world. This code aims at (WHO, 2010a):

- to establish and promote uncompelled standards and practices for the ethical universal recruitment of HPs, acknowledging the rights, duties, and expectations of donor countries, receiving countries, and migrant health workers;
- to guide the Member States in setting up or optimizing the legal and institutional framework needed for the international recruitment of HPs;
- to provide useful orientation appropriate to the formulation and enactment of bilateral treaties and other international legal and rightful instruments;
- to facilitate and propel further international discussion and forge ahead towards cooperation pertaining to the ethical international recruitment of HPs as part of improving and ameliorating health-care systems, with a unique focus on the situation of poor and developing countries.

Some countries have succeeded in implementing the suggested strategies to significantly increase the size of new health workers, and thus this success can be exploited to develop policies in other countries in addition to being a potential supplier of health workers to countries that do not have the capacity for such production.

4. Physicians emigration from the Algerian health sector

a. Physicians emigration as a growing phenomenon in Algeria

The Algerian "emigration climate" is complex, formed by its history, geography, and policy. It has witnessed massive labor emigration to Europe since the 1960s (OECD 2008). This emigration coincides with the emergence of scientific literature on the migration of HPs at the international level and the review of migration policies in Western countries, with a particular focus on highly qualified professionals. However, the phenomenon of the migration of HPS has only recently been

addressed as a growing issue in Algeria, especially in the case of physicians (Musette 2017; Musette and Musette 2022).

Today, the context of Algerian migration is significantly different from what it has been before, particularly since the end of the civil war in 2002. Although the history of Algerian migration was often shaped by its history with France, it marked a significant change in destination, mainly to Germany, Italy, Canada, and Spain. Most recently, to Arab Gulf countries (Labib 2020).

Literature on PhE from Algeria is often studied in the context of brain drain in general. Example: (Barzal Kabir 2017; Bin Hajj Jaloul and Bin Harath Brahimi 2022). Only a few studies have examined PhE in the context of migration. There is paucity in studies in terms of factors influencing PhE from Algeria or their intention to move abroad and the impact of this phenomenon on the Algerian health-care sector. However, it must be noted that researchers confront limitations related to the dearth of data, which is vital in quantifying this phenomenon.

However, according to the data provided by Clemens & Pettersson (2008), there are 10,860 Algerian emigrant physicians circa 2000; this number constitutes 44% of the Algerian doctors' resources. In 2012, it was estimated that about 17,658 Algerian doctors were practicing their profession in France (Musette, Abdellaoui, and Zehnati 2016). PhE toward France continued to grow in size, with approximately 12,000 Algerian physicians officially nominated in the same country in 2017 (Baghzouz 2017). By the year 2021, around 1,200 new alumni doctors from Algeria emigrate to France after passing the test known as the "Epreuve de Vérification des Connaissances" (EVC) in medicine (Musette and Musette 2022). In 2023, 1400 doctors left the country after succeeding in the same test. (CNG 2023).

Arguably, it seems that France keep depleting Algerian physicians by the active recruitment strategy that it implements. However, the destination of Algerian emigrant physicians is mostly towards the OECD countries, where the rate of Algerian doctors working in these countries by the year 2000 achieved 10,793 doctors. In 2009, 36% of foreign doctors in France were emigrants from Algeria (Wismar et al. 2011).

As the table .1. below illustrates, physicians who received their training in Algeria and then emigrated to France represents a high share. The resulting impact of this staggering percentage of mass exodus from Algeria as a source country is a serious imbalance and health equity concern between Algeria and France.

Tab. 1. illustrates the ratio of specialties and physicians born in Algeria and practicing in France.

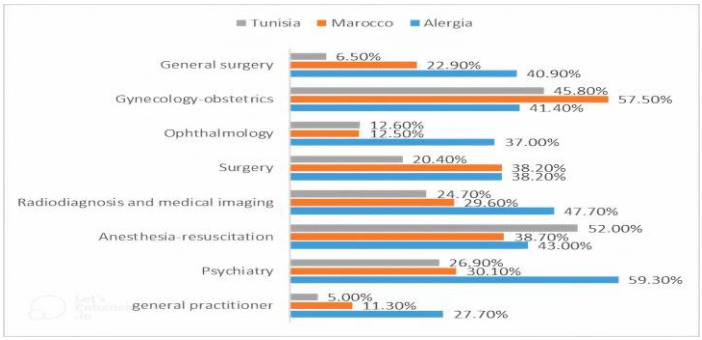
Specialty	Born in Algeria	Graduated in Algeria	Graduated in France	Graduated other than Algeria or France
General practitioner	/	27,7%	71,7%	0,6%
Psychiatry	41.00%	59,3%	40,4%	0,3%
Anesthesia-resuscitation	28,6%	43.00%	55,7%	1,3%

Radio diagnosis and medical imaging	32,8%	47,7%	51,8%	0,5%
Surgeons	24,3%	38,2%	61,1%	0,7%
Ophthalmology	36,9%	37.00%	62,4%	0,6%
Gynecology-obstetrics	15,7%	41,4%	57,1%	1,5%
General surgery	21,5%	40,9%	59,1%	0.00%

Source: the authors, extracted from «Conseil National de L'ordre des Médecins (CNOM)» (2014).

In comparison with the Arab Maghreb, we note in the figure .1. below that the predominant specialists are Algerian physicians. According to CNOM (2014) 43.6% of French physicians are from the Arab Maghreb, while 25% of them are Algerians, 11.5% are Moroccans, and 7.1% are Tunisians. Based on the same data, there are currently 2,721 psychiatrists who were born outside of France. Of these psychiatrists, 63.9% were born in Algeria (41%), and more specifically in one of the three Maghreb countries. In contrast to the general medical specialization, a significant number of these physicians earned their diplomas outside of their country of origin, primarily in France. As for Anesthesia-resuscitation, 55.8% of the workforce was born in one of the three Maghreb countries: Algeria (28.6%), Morocco (16.9%), Tunisia (10.2%). 63.6% of physicians specializing in radio diagnostics and medical imaging were born in one of the three Maghreb countries: Algeria (32.8%) Morocco (17.7%), Tunisia (13.2%). Of surgeons born outside of France, one in two are from the Maghreb, Algeria being the most common country (24.3%).

Fig. 1. highlight the most specialties affected by emigration from Arab Maghreb. (2014).



Source: the authors, extracted from «Conseil National de L'ordre des Médecins (CNOM)» (2014).

These data reveal that these specialties are the most affected by emigration from Arab Maghreb mainly Algeria. As it is evident, Algeria was the first country in the Maghreb in terms of PhE in all specialties. Thus, it is clear that French hospitals depend heavily on Maghreb physicians, as without them the health system would be in plight.

Zehnati (2021), in his study, shows that the calculated total emigration rate for the year 2016 has attained 23.35%, although this proportion takes into consideration all physicians born in Algeria, irrespective of their country of training (France or Algeria), and those practicing the medical profession in France. If we emphasize only physicians registered in the "Tableau de l'Ordre des Médecins" (TOM), this proportion decreases to 20.13%. The researcher attributes this difference to the unique positions of some doctors: the acting trainee and the assistant practitioner. The latter partially practices medicine in France and therefore cannot register with the TOM. However, if only the number of qualified doctors in Algeria who have settled in France and who are registered in the TOM is taken into account, the emigration rate decreases significantly (8.63%), so the assumption of exodus and hemorrhaging of doctors is unsupported.

This situation could have a negative impact on the quality and quantity of medical care delivery. Obviously, the losses incurred are dire in all respects. For example:

- From a financial standpoint, training a specialist doctor in Algeria costs the country about 200 thousand euros (Barzal Kabir 2017).
- From a health care perspective, the emigration of physicians leads to a deficit in health coverage (Manaa 2016). From 2000 to 2009, the density of doctors in Algeria was 12 per 10,000 populations (WHO 2010b). In 2018, the density of doctors (per 1,000 populations) was reported at 1.7193, according to the World Bank Group of Development Indicators (World Bank n.d.).

While Algerian universities produce a large number of doctors, there is still a critical necessity to cover the population's health care needs, given that the population dynamics are not keeping pace with the available health workers. Besides, new alumni doctors are confronted with a low rate of employment, driving them to emigrate abroad as an alternative solution.

In terms of remittances sent by Algerian emigrants, it seems ineffective to initiate economic growth. unlike some countries; for example, in the East Asia and Pacific region, officially recorded remittance flows amounted to $133 billion in 2021 (World Bank Group 2022); in Nigeria, remittances amounted to $17 billion in 2020; and in Algeria, these financial transfers did not exceed $2 billion in 2020 (Musette and Musette 2022). However, this number is inexact due to the difficulty in estimating the accurate size of remittance flows because most of them take place through informal channels.

b. The necessity of emigration governance in Algeria

Policymakers in Algeria need comprehensive research to meticulously assess the dimensions of the issue and enhance their insight into the labor market context. This deeper discernment is vital for developing realistic measures to effectively manage emigration. Within this framework, the Algerian government has sought to

reinforce its ties with skilled emigrants abroad, aiming to promote the transfer of their expertise to the younger generation. To formalize and regulate these connections, the state has introduced a series of legal initiatives. Despite Algeria's concerted endeavors to reinstate its emigrants, these strategies have faced several challenges and have not yielded the anticipated outcomes (Mancer 2016). Thus, most of its strategies were unpropitious.

Although the Algerian policy has proposed mechanisms to improve the health sector and accordingly attract skilled emigrants residing abroad, it seems that it is far away from the prospects of health workers, as stated by “La Coordination Nationale de Défense de La Santé” (CNDS): “We find ourselves forced to stand firmly and strongly against the draft basic laws that were presented, which represent an unacceptable transgression and disdain for the workers who stand on the front lines in serving society” (CNDS 2024).

The problem with the proposed policy is that health workers were overlooked and excluded from this reformative project as an integral partner. This is clear in the CNDS (2024). statement: “This dull draft comes as a blatant violation of the promises of the President of the Republic. Ignoring the workers’ demands and presenting a law that they were not consulted on drafting clearly shows the government’s lack of seriousness in dealing with this effective sector.”.

Besides, the director of the ministry of higher education and scientific research in Algeria stated that “the salary improvement of hospital teachers came to reduce the mass emigration of physicians." However, this decision is arbitrary since it is based on an unsubstantiated conception of the factors influencing these physicians to move abroad.

In this regard, it should be asserted that there are no studies, as we previously indicated, specifically for physicians showing which mechanisms or policies worked, which didn’t, and which strategies are counterproductive. Any measure taken to retrieve emigrants must be based on well-established research with results that are, to say the least, scientifically credible. For example, the Algerian state must understand the different push and pull factors of PhE in order to alter the situation in its home country; otherwise, any action will be futile. In addition to that, it is vital to provide effective databases of health workers in all countries to have a clear picture of the de facto situation.

In light of the myriad challenges the Algerian health sector is undergoing today, PhE seems to exacerbate the crisis. The public health sector is witnessing many stumbling blocks, such as lack of clarity in relations within its institutions, poor working conditions, weak salaries compared to the private sector, unequal distribution of human and material resources across the country, poor remuneration, mismatch between qualifications and required work, indebtedness, and mismanagement (Touta and Meziane 2022). Algeria classified 45 in health status and 81 in the healthcare system. Moreover, in goal achievements, 98 countries rank better than Algeria. Regarding healthcare expenditure levels, Algeria

holds the 114th position out of 192 countries (Kettaf and Dous 2024), which means that it lags behind the developed nations. These challenges require a robust, urgent, and realistic response. It requires a new perspective, a clear long-term vision, and long-term planning.

The shortage of physicians and other HPs also profoundly affects health care, which leads to the ineffectiveness of the health sector (Kouadik 2022). For example, despite the significant decrease in mortality of children under one year of age, by about 20 per 1000, and the lower maternal mortality rates, the Ministry did not achieve the target set for 2015 of 50 deaths per 100,000 live births. The causes of maternal deaths are attributed to the absence of physicians in 87% of deaths, the absence of obstetricians in 68% of cases, obstetric hemorrhage and complications associated with childbirth, and the absence of qualified midwives in order to provide appropriate health care (Fassouli 2023)

Conclusion:

Migration is a global phenomenon that denotes the freedom of spatial mobility between countries. Accordingly, PhE and its effects might be mitigated but cannot be fully ceased. This pervasive phenomenon has caused widespread concern among policymakers, especially due to the adverse effects on healthcare systems in the countries of origin.

The reality of PhE at the global level threatens the health sector of countries that suffer from a weak health sector, faltering medical infrastructure, the spread of diseases, and high mortality rates, which are mostly situated on the African and Asian continents. This impact also extends beyond the health sector to the economic, developmental, and educational aspects.

On the Algerian level, although it is difficult to forecast the emigration rate due to the scarcity of data, there is a strong indication that the proportion of PhE will increase in the next few years, especially since the push factors in Algeria still persist. Besides, the global market and globalization are accelerating physicians' mobility. On the other hand, Algerian policies need more in-depth empirical studies in order to better understand this phenomenon in its multiple dimensions and then predict, control, or mitigate its repercussions, especially since the Algerian health sector still suffers from a deficiency in providing comprehensive and integrated health care. Furthermore, the governance of PhE must go hand in hand with the governance of the entire health sector to avoid fragmentation that keeps the sector fragile and look for potential alternative solutions that enhance the functionality of the whole system. However, this process must be based on scientific evidence and experimental studies.

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