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HUMAN RESOURCE SHORTAGES CAUSED BY THE EMIGRATION OF MOROCCAN HEALTH PROFESSIONALS TO CANADA: A FOCUS ON SDGS, WITH PARTICULAR EMPHASIS ON SDG 3 TO ENSURE HEALTHY LIVING AND WELL-BEING AT ALL AGES

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ABSTRACT

Aim: The aim of this study is to analyse and determine the key factors influencing the decision of Moroccan nurses, health technicians and midwives to immigrate to Canada, despite the shortage of human resources suffered by the Moroccan health ministry, which could undermine the achievement of the 3rd Sustainable Development Goal, aimed at guaranteeing a healthy life and promoting well-being for all at all ages for sustainable societies.

Materials and Methods: This research was based on an exploratory study carried out over 2-year period, between janvier 2022 and janvier 2024, targeting nurses health technicians, and midwives who had begun their administrative procedures with the health department to immigrate to Canada.

Results: The results showed the existence of several factors that influenced the decision of these health professionals. Based on the literature, interviewees' responses were categorized into four key factors, namely, economic, occupation, organizational, and other factors. In addition, this study allowed us to demonstrate what are the predominant factors that affect the decision to emigrate to Canada health professionals, as an example of working conditions considered unfavorable, low remuneration, and especially the opportunity to practice in Canada that attracts these professionals. The results of this study illustrated several factors that influence the decision to leave health professionals to practice in Canada.

Discussion: This is the first study to examine the factors influencing the departure of Moroccan healthcare professionals to practice in Canada. its results will provide a roadmap for decision-makers to implement human resources management tools and mechanisms to retain healthcare professionals, with the ultimate aim of limiting this hemorrhagia that hinders the proper functioning of the care facilities.

Keywords: emigration, turnover, shortages, healthcare, health professionals, 3rd sustainable development goals, Sustainable Development Goals (SDGs).

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1 INTRODUCTION

The notion of human capital gained momentum in the post-World War II years when economic growth began to be explained by factors other than technology and investment (Solow, 1956). Companies were thus obliged to have a larger workforce in order to adapt to change characterized by technical progress, innovation, and production complexity (Solow, 1956), hence the need for skilled workers (Arcand. M, 2001). With this in mind, a number of authors and studies have focused on the relationship between human resources and organizational efficiency and performance (Gerhart, 1999; McMahan, Virick, and Wright, 1999; Lewin, Mitchell, and Sherer, 1992). The human element has thus become a resource to be reconsidered and valued, as it is the linchpin of any structure. This reconsideration of the human element gave rise to the notion of human capital, thanks to studies carried out mainly by Schultz (1961) and Becker G.S. (1975), leading to an important conclusion, namely the need for structures to guarantee and ensure a favorable environment for their human capital, in order to retain it and avoid any deterioration in this asset Walker (2001).

All sectors and fields are concerned, and must at all costs focus their attention on their human capital. The health sector, whether private or public, is obliged to develop and guarantee a large number of high-quality human resources to ensure the smooth running of health facilities. The World Health Organization underlines the importance of human resources in achieving health objectives. Gill, R. (2016) corroborates this assertion by demonstrating the link between effective human resources and the quality of care provided to citizens. Healthcare professionals are the fundamental element of any healthcare system, and the performance of health establishments (lower mortality rates, satisfied patients, achieving objectives) is dependent on sufficient, high-quality healthcare staff (Aiken L. H. and al., 2012; 2014; Needleman and al., 2002;

Mchugh and al., 2011; Chen, L., 2004; Hyde and al., 2006; Harris, C., and al., 2007).

However, all healthcare systems face a major challenge that hinders the existence of this dyadic relationship between healthcare professionals and the efficiency and performance of healthcare facilities. This challenge relates to the scarcity of human capital. In fact, in its 2006 report, the WHO raised the issue of the shortage of human resources (including doctors and nurses, health technicians, and midwives) in over 57 countries, calling on governments to remedy the situation. The WHO warned that this shortage was likely to worsen over time, rising from a shortage of 7.2 million healthcare professionals in 2014 to an estimated 12.9 million by 2035. Several authors have pointed out that this shortage has a negative impact on the smooth running of health structures, affecting the quality of care offered to citizens (George, 1979; Hart and Moore, 1989; Price and Mueller; 1986).

This shortage can be explained by a number of factors: 1) A high turnover of healthcare professionals; 2) Lack of recruitment; 3) Low investment in the training of healthcare professionals; 4) The movement of health professionals from rural to urban areas; 5) Emigration of healthcare professionals to more developed countries.

This last factor is undoubtedly one of the major problems facing most African countries. This phenomenon is said to be caused by a lack of equipment, an unfavorable working environment, inadequate working conditions, low incomes, and salaries, lack of opportunities and promotions, etc. (Sauneron, 2011; Kerouedan; 2009). This difference in living standards between countries pushes rational individuals to leave poorer countries and settle in richer ones, which, in the era of globalized labor markets, are experiencing a significant increase in demand for labor as their populations age. These countries opt for favorable immigration policies by guaranteeing attractive incentives, such as attractive salaries, company housing, favorable infrastructure, development opportunities, etc. (Kabene, S. M, 2006; WHO, 2003).

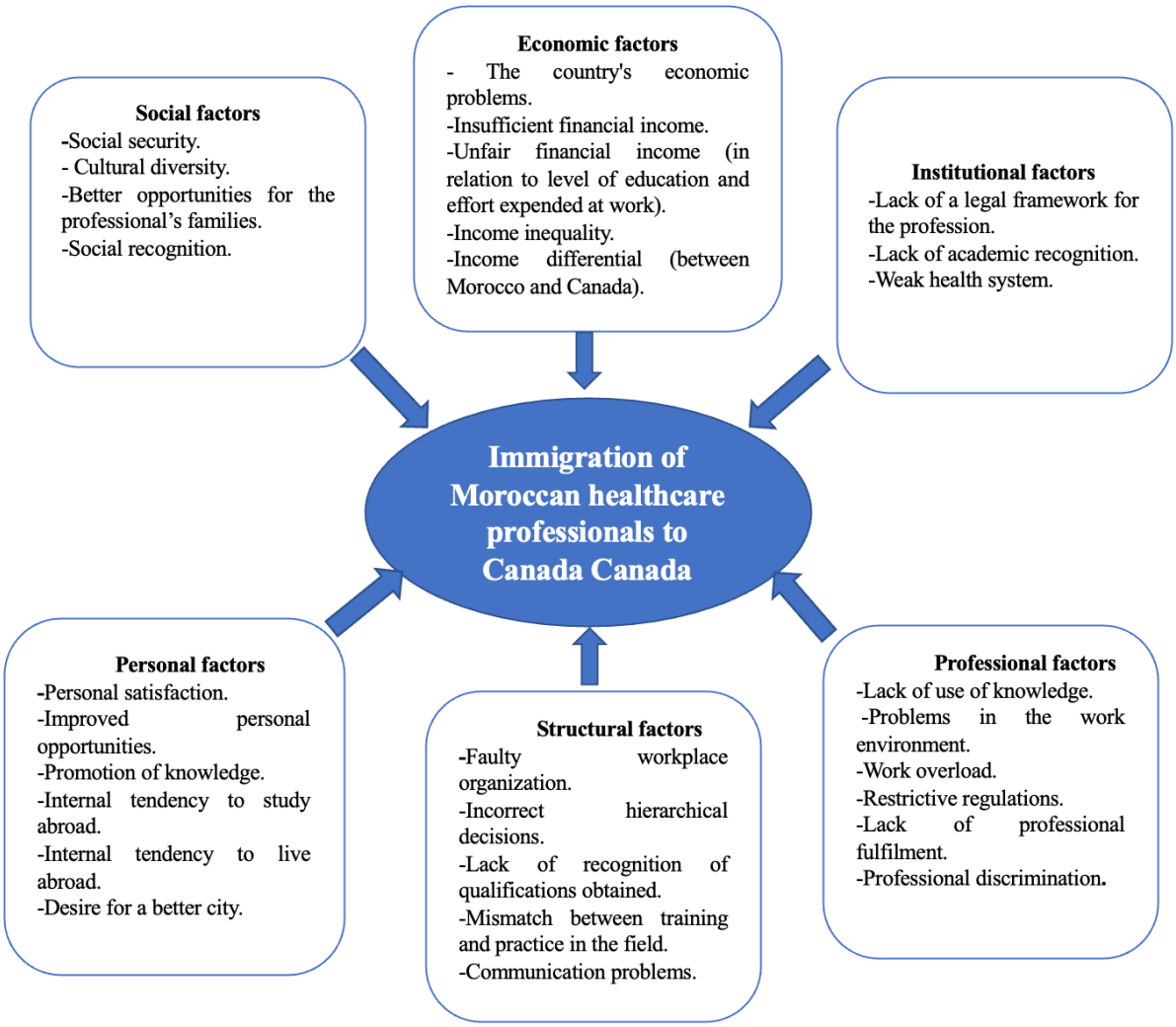
The Moroccan healthcare system is no exception and is also faced with this phenomenon of human resource shortages specifically the migration of these healthcare professionals to other developed countries, in this case,

Canada or the countries of Europe. Between 2022 and 2024, more than 239 nurses, health technicians, and midwives expressed their desire to work in these countries. An alarming figure that begs the question: why?

2 THEORETICAL FRAMEWORK

Figure 1

Theoretical framework of this study



3 METHODOLOGY

This research was based on an exploratory study, the first of its kind in Morocco, carried out over 2-year period, between Janvier 2022 and Janvier 2024, targeting nurses health technicians, and midwives who had begun their

administrative procedures with the health department in order to practice in Canada.

3.1 INCLUSION CRITERIA

Were included all nurses, health technicians, and midwives who had started their administrative procedures to practice in Canada with the competent Moroccan health services.

3.2 EXCLUSION CRITERIA

Were excluded all nurses, health technicians, and midwives who had not started their administrative procedures to practice in Canada with the competent Moroccan health services.

3.3 DATA COLLECTION

This study was conducted using an interview guide, with nurses, health technicians, and nurses who had begun their administrative procedures with the relevant Moroccan health services, in order to practice in Canada, on:

Identification of the interviewee (family situation, gender, region, and structure where he/she works...)

- Economic factors influencing their decision to move to Canada;
- Professional factors influencing their decision to move to Canada;
- Organizational factors influencing their decision to move to Canada;
- Other factors influencing their decision to move to Canada.

3.4 ETHICAL CONSIDERATIONS

We have taken into consideration the anonymity and consent of the participants and have obtained all necessary authorizations to carry out this study.

3.4.1 Some definitions

3.4.1.1 Administrative procedures to practice in Canada

Nurses, health technicians, and midwives wishing to work in Canada are required to fill out and certify a registration form with the Moroccan health authorities. This form provides all the information about the applicant's diploma, specialty, length of training, etc. that the Canadian authorities need to validate their application.

3.5 STATISTICAL ANALYSIS

The collected data were coded and subjected to computerized analysis using SPSS V20 software. Variables were expressed as percentages or verbatims.

4 RESULTS AND DISCUSSION

4.1 NUMBER AND PROVENANCES OF NURSES, HEALTH TECHNICIANS, AND MIDWIVES WHO HAVE STARTED THEIR EMIGRATION PROCEDURE TO SETTLE AND PRACTICE IN CANADA

From 2022 to 2024, the number of healthcare professionals - nurses, health technicians, and midwives - who have started the procedure to settle and work in Canada is 289, distributed as shown in Table 1:

Table 1

Number and provenances of nurses, health technicians, and midwives who have started their emigration procedure to settle and practice in Canada

Region	Place of work	Family situation		Total
		Married	Single	
Souss-Massa	Rural dispensary	-	3	3
	Provincial hospital	4	3	7
Beni Mellal-Khenifra	Rural dispensary	-	3	3
	Provincial hospital	1	1	2
Casablanca-Settat	University Hospital Centre (UHC)	25	20	45
	Provincial hospital	2	3	5
Dakhla Oued Ed-Dahab	Provincial hospital	1	-	1
Draa-Tafilalet	Rural dispensary	-	4	4
	Provincial hospital	3	2	5
Fez-Meknes	University Hospital Centre	20	15	35
	Provincial hospital	3	3	6
	Rural dispensary	-	2	2
Guelmim Oued Noun	Rural dispensary	-	2	2
	Provincial hospital	1	1	2
Laayoune Sakia El Hamra	Rural dispensary	-	5	5
	Provincial hospital	-	1	1
Marrakech-Safi	University Hospital Centre	16	15	31
Oriental	University Hospital Centre	15	11	26
	Provincial hospital	1	2	3
Rabat-Sale-Kenitra	University Hospital Centre	21	17	38
	Provincial hospital	2	2	4
Tangier-Tetouan-AlHoceima	University Hospital Centre	1	4	5
	Rural dispensary	-	1	1
	Provincial hospital	2	1	3
Total		**118**	**121**	**239**

4.2 GENERAL DATA ON NURSES, HEALTH TECHNICIANS, AND MIDWIVES WHO HAVE BEGUN THE EMIGRATION PROCESS TO SETTLE AND PRACTICE IN CANADA

According to Table 2, 139 of the 239 healthcare professionals are women, i.e. around 60% of the population studied, compared with 40% of men. This trend can be explained simply by the fact that women make up a large proportion of Morocco's healthcare professionals, compared with men. Some 57% of these women are married, compared with 43% who are single. Of the 57% of married women, either they intend to leave to join their spouses already settled in Canada, they and their spouses wish to leave to settle in Canada, or

they wish to leave first while their spouses join them. As far as the literature is concerned, there is no consensus on the link between gender and turnover. Some authors point out that it is men who are more likely to leave than women (Lortie, 1975; Macoby and Jacklin, 1974; Miller and al., 1979), while others attest that it is women who are more likely to want to leave their jobs (Marsh and Mannari, 1977; Boumans and al., 2008; Hersh and Meyers, 2019). We also noted that the majority of these nurses, health technicians, and midwives, i.e. 74% of respondents who intend to emigrate to Canada, have dependent parents, which is out of step with the literature, as the existence of dependent parents normally discourages individuals from moving away from their parents (Strachota and al., 2003). It should also be noted that 68% of these nurses, health technicians, and midwives have no children, which is one of the reasons or factors driving them to emigrate in order to guarantee a better-perceived quality of life for their children in the future. Indeed, according to Mobley and al (1979) and Price and Mueller (1986), those with children in their care are less likely to want to leave. We also noted that 67% of these nurses, health technicians, and midwives had been in the profession for less than 10 years, compared with the remaining 33% who had been in the profession for more than 10 years. This figure can be explained by the fact that these healthcare professionals are still young, with sufficient energy and ambition to seek the best for their families and improve their quality of life and working conditions, while they still have the time and opportunity to do so, and this corroborates the results of previous studies, namely those by Cotton and Tuttle (1986); Griffeth and al. (2000) and Rubenstein and al. (2018).

Table 2

General data on nurses, health technicians, and midwives who have begun the emigration process to settle and practice in Canada

			Professional seniority			**Children in charge**		**Parents in charge**	
Gender			Less than 5 years	Between 5 and 10 years	Over 10 years	Yes	No	Yes	No
Female	139	**58%**	62	39	38	57	82	120	19
Masculin	100	**42%**	39	20	41	19	81	58	42
Total	239		101	59	79	76	163	178	61
			42%	**25%**	**33%**	**32%**	**68%**	**74%**	**26%**

4.3 DISTRIBUTION BY PLACE OF WORK OF NURSES, HEALTH TECHNICIANS, AND MIDWIVES HAVING BEGUN THEIR EMIGRATION PROCEDURE TO SETTLE AND PRACTICE IN CANADA

According to Table 3, most of the nurses, health technicians, and midwives who began their emigration procedure to settle and practice in Canada between 2020 and 2024, were from university hospitals, with a total of 180 nurses, or 75.31%, followed by 16.32% from provincial hospitals and only 8.37% from rural dispensaries. This difference can be explained in particular by the increased workload and pressure at UHCs, which is in line with the findings of studies that state that workload has an influence on employees' decision to leave (Mor Barak and al., 2001; Flinkman and al., 2008; Zeytinoglu and al., 2011; Holland and al., 2019). It should also be noted that there is a remarkable difference in staffing levels between these structures. University Hospitals have more nurses than provincial hospitals and rural dispensaries, which may also explain this difference.

4.4 PROVENANCE OF NURSES, HEALTH TECHNICIANS, AND MIDWIVES WHO HAVE STARTED THE EMIGRATION PROCEDURE TO SETTLE AND PRACTICE IN CANADA

Most of the nurses, health technicians, and midwives who have expressed their wish to emigrate to Canada to settle and practice come from the most prosperous regions, namely Casablanca-Settat, Fez-Meknes, and Rabat-Sale-Kenitra, with percentages of 20.92%, 17.99%, and 17.57% respectively. The Marrakech-Safi and Oriental regions follow with rates of 12.97% and 12.13% respectively. For other regions of Morocco, see Table 3. This can be explained by the high density of nurses in these regions, accentuated by the presence of university hospitals. This high density in these regions can also be explained by the poor distribution of these resources and the high level of internal migration between regions. Many nurses, health technicians, and midwives leave other regions to settle in major cities such as Casablanca, Rabat, and Fez, usually to be closer to their families.

4.5 ECONOMIC FACTORS INFLUENCING NURSES, HEALTH TECHNICIANS, AND MIDWIVES' DECISION TO EMIGRATE TO CANADA TO SETTLE AND PRACTICE

According to Cotton and Tuttle, 1986; DePanfilis and Zlotnik, 2008; Mobley and al., 1979; Mor Barak et and., 2001; Zlotnik and al., 2005) low wages influence employees' decision to leave. In our case, and according to Figure 1, 88% of nurses, health technicians, and midwives found that one of the main reasons influencing their decision to settle and practice elsewhere was the low salary compared with that offered to nurses, health technicians, and midwives in Canada. We also found that 67% of these nurses, health technicians, and midwives felt that there was income inequality between them and the medical profession, believing that they too put enormous effort into their work, which confirms the findings of several authors, asserting the close link between salary inequality and turnover (Chan and Kuok, 2011; Stoner and al., 2013; Rouen, 2017). It should also be noted that 66% of these nurses, health technicians, and midwives believe that their country's economic situation influences their decision to emigrate to Canada, as confirmed by Mobley (1982) and Cotton and Tuttle (1986).

4.6 FACTORS RELATED TO THE PROFESSION INFLUENCING NURSES, HEALTH TECHNICIANS, AND MIDWIVES' DECISIONS TO EMIGRATE AND SETTLE IN CANADA

According to Figure 2, nearly 220 surveyed nurses, health technicians, and midwives, accounting for 92%, affirm that working conditions play a significant role in influencing their decisions, intending to settle in Canada in hopes of finding better working conditions and utilizing their knowledge and skills more effectively. Phillips and al. (1991), Stremmel (1991), Bertrand and al. (2010), and Cottini and al. (2011) have studied this relationship between working conditions and turnover. 89% of respondents state that job stress and burnout are among the reasons driving their desire to emigrate to Canada. This aligns with studies examining the relationship between stress and turnover (Wright & Thomas, 1982; Jayaratne & Chess, 1984; McKee and al., 1992; Lazaro and al., 1984; Burke & Greenglass, 1989), as well as burnout and turnover

(Edelwich and al., 1980; Lee & Ashforth, 1993b, 1993a; Drake & Yadama, 1996; Shirom, 1989; Lachman & Diamant, 1987; Maslach, 1988; Lee and al., 1993, 2000). Following this, dissatisfaction with career progression among nursing staff is reported at 75%. Several authors have confirmed this relationship between career development and voluntary turnover (Price & Mueller, 1986; Johnston and al., 1992; Cotton & Tuttle, 1986; Mobley, 1982; Mobley and al., 1979; Griffeth and al., 2000). Workload follows with 66% of respondents reporting working in environments with high workloads. The correlation between workload or work overload and employee turnover has been demonstrated in various studies, including those by Jayaratne & Chess (1984), Jolma (1990), Siefert and al. (1991), Schaefer & Moos (1996), and Blankertz & Robinson (1997). It should be noted that 87% of respondents experiencing work overload are employed in university hospitals (CHUs). Job security has also been identified by 74% of respondents as a factor influencing their desire to emigrate to Canada. This has been demonstrated in several studies (Anderson & Basteyns, 1981; Flinkman and al., 2008; Bellini and al., 2019).

4.7 FACTORS RELATED TO ORGANIZATIONAL FACTORS INFLUENCING NURSES, HEALTH TECHNICIANS, AND MIDWIVES' DECISIONS TO EMIGRATE AND SETTLE TO PRACTICE IN CANADA

According to Figure 3, approximately 84% of respondents affirm that the absence of procedures, standards, and a professional practice framework drives these nurses, health technicians, and midwives to immigrate to Canada to work in settings where professional acts are defined. This aligns with studies demonstrating the influence of job ambiguity on employee turnover (Jayartne & Chess, 1984; Jolma, 1990; Siefert and al., 1991). It is also noteworthy that 58% of these respondents find the lack of organizational support (supervisors and colleagues) to be among the factors prompting them to decide to leave. This is consistent with literature indicating the significant relationship between lack of organizational support (supervisors and colleagues) and employee turnover (Jayartne & Chess, 1984; Koeske & Kirk, 1995; Siefert and al., 1991; Alexander and al., 1998; Alexander, 1999). Moreover, 50% of these nurses,

health technicians, and midwives perceive a real lack of work organization, sometimes leading to role conflicts with other healthcare professionals. Indeed, according to several authors, including Abbassi & Hollman (2000), Griffeth and al. (2000), Leiter & Maslach (2009), and Delobelle and al. (2011), there is a strong link between management style or leadership and employee turnover. On one hand, the impact of role conflicts and ambiguities on employees' desire to leave has been highlighted (Weitz, 1956; Jones and al., 1996; Cotton & Tuttle, 1986; Griffeth and al., 2000).

4.8 OTHER FACTORS CITED BY RESPONDENTS THAT INFLUENCE NURSES, HEALTH TECHNICIANS, AND MIDWIVES' DECISION TO MIGRATE TO SETTLE AND PRACTICE IN CANADA

Other factors cited by respondents as influencing their decisions to leave have also been mentioned. In line with studies by Borowski and al. (2007), Blegen (1993), and Abbassi and al. (2000), 76% of nurses, health technicians and midwives surveyed in our research emphasize that seeking social recognition is among the reasons for their departure to Canada. Additionally, 91% of respondents indicated that job opportunities and career development available in Canada are essential factors in their decisions to immigrate. This aligns perfectly with turnover models that highlight external job opportunities as antecedents of turnover (March & Simon, 1958; Munchinsky & Mowday, 1980; Steers & Mowday, 1981; Price & Mueller, 1986; Mobley and al., 1979). Furthermore, 69% of respondents stated that lack of training and personal development opportunities would lead to a desire to leave. According to Levine (1993), Mincer (1998), Talaga & Beehr (1995), Mueller and al. (1994), and Mitchell and al. (2001), training plays a role in employee retention, and perceived lack of training will drive employees to leave. 66% of respondents affirmed that lack of engagement is one of the factors that influenced them to leave and immigrate to Canada (see Figure 4).

Table 3

Distribution by place of work and provenances of nurses, health technicians, and midwives having begun their emigration procedure to settle and practice in Canada

Distribution by region			**Place of work**				
Region	**Workforce**		**Structure by region**	**Workforce**	**Structure**	**Workforce**	
Souss-Massa	**10**	**4,18%**	Rural dispensary	3	UHC	**180**	**75,31%**
			Provincial Hospital	7			
Beni Mellal-Khenifra	**5**	**2,09%**	Rural dispensary	3			
			Provincial Hospital	2			
Casablanca-Settat	**50**	**20,92%**	UHC	45			
			Provincial Hospital	5			
Dakhla Oued Ed-Dahab	**1**	**0,42%**	Provincial Hospital	1			
Draa-Tafilalet	**9**	**3,77%**	Rural dispensary	4			
			Provincial Hospital	5	Rural dispensary	**20**	**8,37%**
Fez-Meknes	**43**	**17,99%**	UHC	35			
			Provincial Hospital	6			
			Rural dispensary	2			
Guelmim Oued Noun	**4**	**1,67%**	Rural dispensary	2			
			Provincial Hospital	2			
Laayoune Sakia El Hamra	**6**	**2,51%**	Rural dispensary	5			
			Provincial Hospital	1			
Marrakech-Safi	**31**	**12,97%**	UHC	31	Provincial Hospital	**39**	**16,32%**
Oriental	**29**	**12,13%**	UHC	26			
			Provincial Hospital	3			
Rabat-Sale-Kenitra	**42**	**17,57%**	UHC	38			
			Provincial Hospital	4			
Tangier-Tetouan-AlHoceima	**9**	**3,77%**	UHC	5			
			Rural dispensary	1			
			Provincial Hospital	3			
Total	**239**		**Total**	**239**	**Total**	**239**	

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Figure 1

Economic factors cited by respondents influencing the decision to practice in Canada

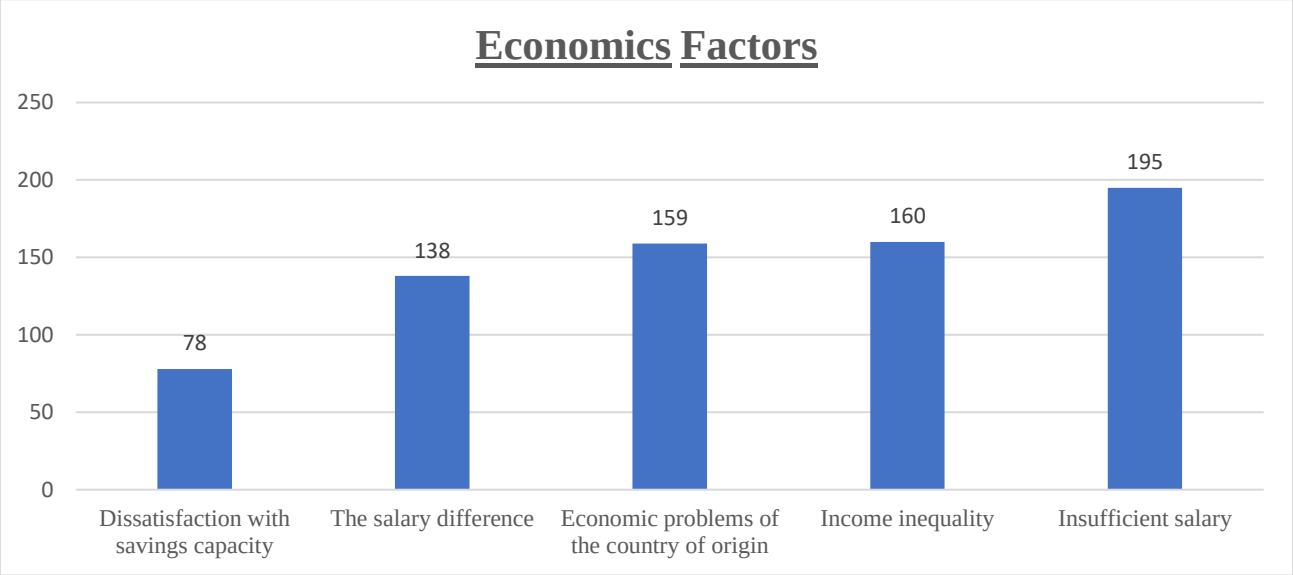


Figure 2

Factors related to the profession cited by respondents influencing the decision to practice in Canada

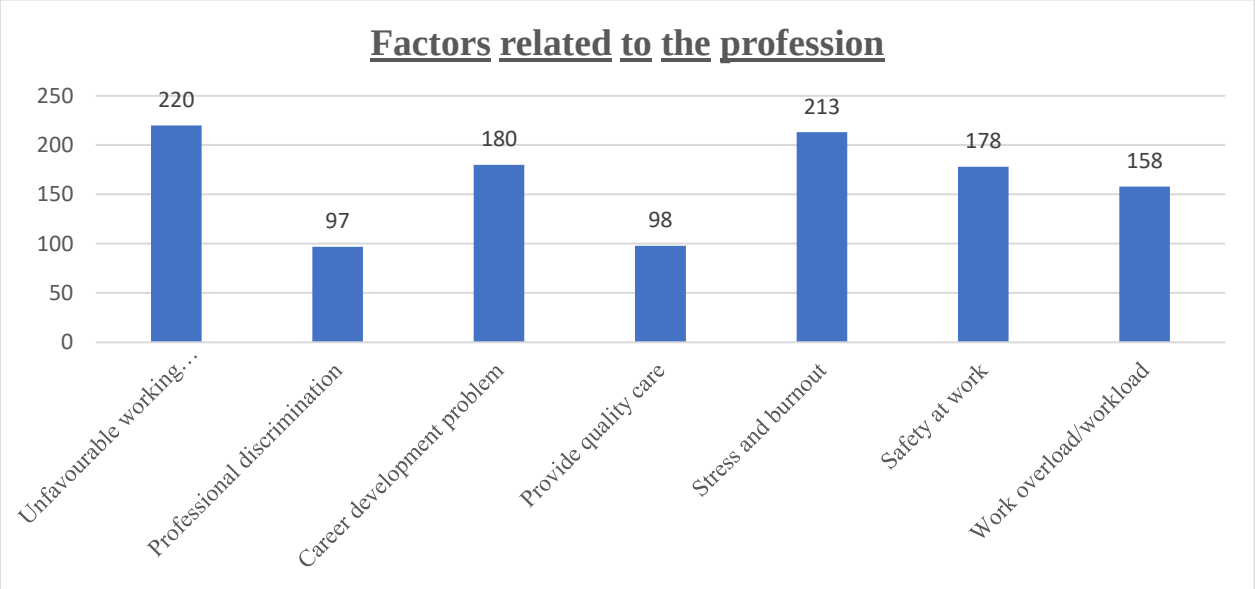


Figure 3

Organizational factors cited by respondents influencing the decision to practice in Canada

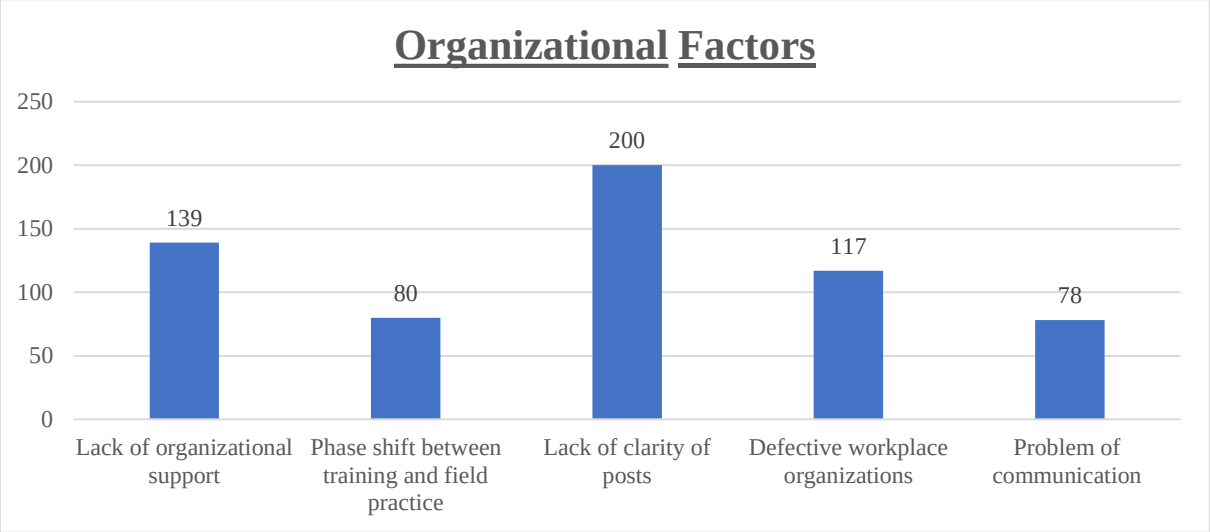
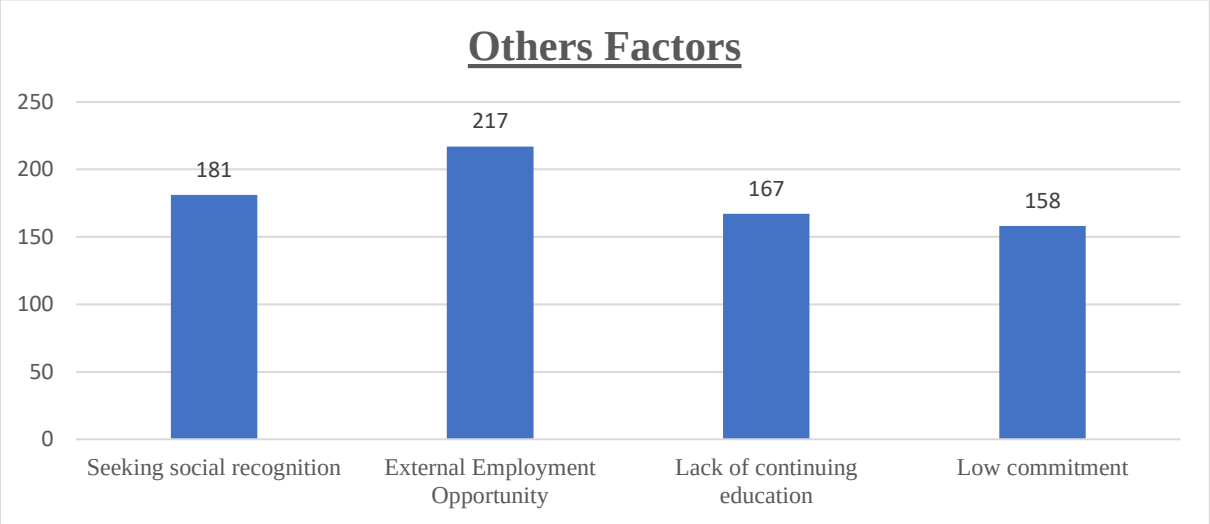


Figure 4

Other factors cited by respondents influencing the decision to practice in Canada



5 CONCLUSION

This study allowed us to demonstrate what are the predominant factors that affect the decision to emigrate to Canada of health professionals, as an example of working conditions considered unfavorable, low remuneration, and especially the opportunity to practice in Canada that attracts these

professionals. Whether it is personal, organizational, social, or other aspects, decision-makers must put in place retention and loyalty mechanisms to limit the effects of these factors, and finally against this phenomenon of voluntary departure, which affects the proper functioning of care structures. We propose as research perspectives in subsequent studies, to conduct surveys by regions, in order to establish comparative studies between them by determining the factors that affect the most. It will also be interesting to target health professionals who practice only at the UHC level to deduce the specific causes of these structures that push these professionals to make a decision to leave.

5.1 SUGGESTIONS AND LIMITATIONS

This study will enable Moroccan decision-makers to understand the factors influencing the decision by healthcare professionals to leave the Moroccan healthcare sector and practice elsewhere, in this case Canada. Based on the results of this research, they can then put in place retention mechanisms and strategies to retain these healthcare professionals.

We also propose, in future research, to try to carry out specific studies for each region of Morocco or each type of structure (CHU, urban area, rural area), in order to identify the factors that characterize them and to carry out a comparative study between them.

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ANIMAL AND HUMAN RIGHTS STATEMENT

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national

research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

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