Intent to Migrate among Nurses in Selected Hospitals at Beni-Suef Governorate: Pushing and Pulling Factors

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Abstract

Background: Numerous factors were discovered that affected both temporary and long-term migration, including push and pull factors, causing a nurse shortage and the brain drain. **Aim:** The current study aimed at evaluating nurses' intent to migrate in selected hospitals at Beni-Suef governorate: pushing and pulling factors. **Design**: A descriptive correlational design was utilized. **Setting:** The study was conducted at eleven hospitals; one university hospital and ten hospitals affiliated to Ministry of Health (MOH) that provide both inpatient and out- patient services. **Sample:** A simple random sample of 323 nurses out of 2024 nurses was selected. **Data collection tools:** Data was collected using a self-administered questionnaire "Nurses' Intent to Migrate Questionnaire" which was developed by the investigators after reviewing the related literature. **Results:** More than two thirds of nurses had intent to migrate with nearly half of them had high likelihood to migrate. The studied nurses revealed high perception of overall migration factors (push and pull) with mean and SD (3.84±0.67). **Conclusion:** Nurses' intent to migrate is a critical problem threatening Egyptian healthcare system particularly in the presence of severe nursing shortage and increased demands. This study supported the common push and pull factors related to the causes of nurses' migration. **Recommendations**: Improving financial condition of nurses by increasing their salaries and benefits to the level that guarantees better living conditions and social welfare and creating supportive work environment and providing necessary supplies and materials.

Keywords: Migrate, Nurses, Pulling Factors & Pushing Factors

Introduction

International nurse migration and the sustainability of the domestic nursing workforce are inextricably linked to and rely upon one another **(ICNM, 2015).** The nurse workforce policy must be supported by particular measurements because of this crucial connection **(Buchan et al., 2019).** Maintaining a nurse workforce inside the national health system is a huge difficulty for both home and receiving nations **(Efendi, et al., 2019)**. With the demand for healthcare services rising quickly due to population growth, ageing populations, and the shift in the burden of non-communicable diseases on the global public health system, any country's healthcare system is facing a significant challenge due to the approximately 9 million nurse and midwife shortage that currently exists worldwide **(World Health Organization, 2016)**. The scarcity of nurses also affects high-income countries. Because of the growing need for healthcare services, it is anticipated that there will be a shortage of 2.5 million nurses across 23 OECD countries by 2030 **(Scheffler & Arnold, 2019)**. Human rights, local conditions, and a person's financial and personal circumstances can all have an impact on the immigration of foreign nurses **(Oda et al., 2018)**. Previous studies have revealed a variety of individual characteristics, such as economic factors, more

promising career paths, and a lack of employment chances in their native countries, that affect nurses' intentions to move for work **(Efendi, et al., 2016)**. The labor market capacity of the health sector, immigration and employment laws, and laws governing the licensing and registration of health professionals are some of the push and pull factors that have an impact on the high incidence of nurse migration in both source and destination countries **(World Health Organization, 2014)**.

Nursing research is currently interested in determining the variables that caused both temporary and long-term migration as well as the methods to control them, particularly in Egypt. The nursing community, society, and hospital management are expected to gain more insight from this study on the problem of nurse brain drain and its possibilities for change. Additionally, by understanding what drives the opportunities that nurses find so enticing, it will be simpler to combat the push factors that work against them and encourage nurse retention. To retain workers and improve the health system as a whole, policymakers must have a thorough understanding of how these pressures interact **(Krasulja et al., 2016)**.

'Push-Pull' factor modeling was typically used to analyze nurse migrations. According to Lee's push-and-pull theory, there is a reciprocal relationship between the pull and push factors of the target and

home countries. These elements work against one another, and when combined, they typically result in a net brain drain from Africa **(Pretorius, 2018)**. According to **Lee (1966)**, push factors are those domestic circumstances in the nation of origin that forced nurses to leave. Economic, social, political, medical, occupational, and work-related issues are among these. On the other hand, attention was drawn to pull factors in recipient nations because of their attractive qualities. These elements may include job stability, pay, work environment, social/family aspects, career and career development, and wages and related benefits **(Kadel; Bhandari, 2019 & Thapa; Shrestha, 2017).**

Significance of the Study

It has long been a global tendency for health professionals to move from low- and middle-income countries to high-income nations. The migration of nurses at the same time as the worldwide nursing shortage worsened the issue and presented more difficulties. Due of its long-term effects on emerging nations, it is a subject of growing concern **(Oladeji & Gureje, 2016)**. Many nurses leave their home countries in pursuit of better working conditions, which have a severe impact on people's health and puts the nursing profession and the health system in grave danger **(Pretorius, 2018; Dywili et al., 2013)**.

Downsizing at home or in the place of origin will have a severe effect on health care professionals, the surviving nurses, and patients who require the kind of care that only licensed nurses are capable of providing. Additionally, nursing personnel that remain in their native country experience a heavy workload, which results in burnout, demoralization, and chronic job discontent **(Pretorius, 2018)**. According to research conducted in Egypt **(Bakr, 2012; Mahran et al., 2017)**, there is a chronic lack of healthcare workers, notably qualified nurses.

One key factor contributing to this shortfall is the voluntary movement of nurses to industrialized nations, which could undermine the health system, create economic loss, and delay the delivery of care. This poses a serious threat to reaching the Sustainable Development Goals (SDGs) related to health, endangering the health of people that are vulnerable and the efficacy of global health interventions **(Mokoena, 2017; Osigbesan, 2021)**. The number of highly trained and bright Egyptian migrants has increased dramatically over the past 20 years, with the majority of these migrants going to nations in the Gulf Cooperation Council (GCC) **(Bacchi, 2014)**. Although international literature on the drivers and circumstances causing the nurses' brain drain or migration is lacking, it is widely acknowledged and

praised as a radical issue with significant ethical, social, and health consequences **(Pretorius, 2018).**

Our understanding of how nurses view their working conditions and what elements can increase their likelihood or purpose to migrate is lacking. There exist knowledge gaps about how nurses view their working conditions and what variables can impede their intention or likelihood to relocate. **Abou Hashish & Ashour (2020)** recommended the need for large-scale quantitative studies on the problems facing nurses in Egypt. Therefore, the current study is important because the researchers explored the push and pull factors associated with nurses' intention to migrate, and thus help account for the magnitude of the problem and how to counter it in the future.

Theoretical Framework: Lee's push-pull theory **(Lee, 1966)** served as the theoretical foundation for the current study. According to the hypothesis, there is a correlation between the pulling elements in the destination country and the pushing factors in the home country, and vice versa. These variables are at odds with one another, and their combination frequently results in the final exodus of medical professionals **(Pretorius, 2018)**.

Operational Definitions:

Pushing factors: In the context of the current study, It refers to the factors in home/origin country that cause nurses' migration.

Pulling factors: In the context of the current study, it refers to the factors in destination country that attract nurses.

Aim of the Study: The current study aimed at evaluating nurses' intent to migrate in selected hospitals at Beni-Suef governorate: pushing and pulling factors

Objectives: The aim of the current study was achieved through the following objectives:

1) Evaluating nurses' intent to migrate.
2) Evaluating pushing factors that determine nurses' intent to migrate.
3) Evaluating pulling factors that determine nurses' intent to migrate.

Research Questions: Three research questions were formulated based on the aim of the study:

Q1: What is the level of nurses' intent to migrate?

Q2: What are the pushing factors that determine nurses' intent to migrate?

Q3: What are the pulling factors that determine nurses' intent to migrate?

Subjects and Methods

Research Design: A descriptive correlational research design was utilized for conducting the current study.

Research Setting: The study was conducted at eleven hospitals; one university hospital and ten

hospitals affiliated to Ministry of Health (MOH) that provide both inpatient and out- patient services. The bed capacity of Beni-Suef University Hospital was 1420 beds and served by 306 nurses. Ministry of Health hospitals include one general hospital, three specialty hospitals, and six rural hospitals.

a) Beni-Suef General hospital: it is the only general hospital at Beni-Suef governorate; its bed capacity was 533 beds and served by 383 nurses.
b) The Rural Hospitals: six rural hospitals in Beni-Suef were included in the study which were;
   1) Elwasta Hospital that consists of 162 beds and served by 187 nurses,
   2) Naser Hospital; its bed capacity was 158 beds and served by 169 nurses,
   3) Ehnasia Hospital; its bed capacity was 104 beds and served by 184 nurses,
   4) Somosta Hospital; its bed capacity was 101beds and served by 167 nurses,
   5) Beba Hospital; its bed capacity was 163 beds and served by 186 nurses.
   6) El-Fashn Hospital; its bed capacity was 86 beds and served by 172 nurses.
c) The Specialty Hospitals that provide one specialty service: three specialty hospitals in Beni-Suef governorate were included in the study which were:
   1) Ophthalmology Hospital; its bed capacity was 72 beds and served by 69 nurses,
   2) Chest Hospital; its bed capacity was 76 beds and served by 79 nurses.
   3) Fever Hospital; its bed capacity was 62 beds and served by 122 nurses. These hospitals provide specialized services to all districts of Beni-Suef governorate. The public health units which provide only ambulatory health services were excluded from the study. The total bed capacity of Beni-Suef Governorate Hospitals affiliated to MOH was 1517 beds and the total nurses' number was 2024 nurses.

Subjects: A simple random sample of 323 nurses out of 2024 nurses from the previously mentioned setting who agreed to participate in the study were recruited for the study. The sample included both male and female staff nurses.

Sample size: Sample size was calculated using Steven and Thompson equation to calculate the sample size from the next formula

$$n = \frac{Np(1-p)}{(N-1)(d^2/z^2) + p(1-p)}$$

N= Population (2024)
Z= confidence level 95% (1.96)
P= probability (50%)
d= margin of error (0.05)

Tools of Data Collection:
Data was collected using a self-administered questionnaire **"Nurses' Intent to Migrate Questionnaire"** which was developed by the investigators after reviewing the related literature (**Abou Hashish & Ashour, 2020**). The questionnaire was composed of four parts: **Part I personal characteristics:** included questions related to subjects' gender, age, education, experience, etc. **Part II Intent to migrate:** included three items asking subjects about their intent to migrate, to what extent, and their possible destination country. **Part III Push factors:** consists of 35 items measuring reasons that could 'push' nurses to emigrate from their home country. It addresses six main factors: economic (4 items), social (3 items), political (4 items) health-system (6 items), professional (8 items), and work environments (10 items). **Part IV Pull Factors**: consists of 27 items measuring factors in other countries that could pull nurses to migrate. It addresses eight main factors: salary and compensation (4 items), educational opportunities (3 items), career development (4 items), job security (2 items), nursing image (3 items), family and social (3 items), personal ambition (3 items) and management support (5 items).

Scoring systems: Responses on part III and IV were measured using five points Likert scale ranging from (1) for strongly disagree to (5) for strongly agree. The values of the mean were categorized as follows; low (< 2.5), moderate (2.5-3.75) and high (> 3.75).

Validity and Reliability:
Face validity was examined by five experts in nursing administration specialty from different nursing faculties in Egypt, and included two professors from faculty of nursing Cairo University and three assistant professors from faculty of nursing Beni-Suef University. Modifications for the tools were done based on the recommendations of the nursing experts. Then, reliability of the tool was tested using Cronbach's alpha coefficient which was (0. 883) which was good score for reliability.

Field work:
Official permissions from the medical and nursing manager of Beni-Suef University hospital and were obtained. A letter was sent to the Undersecretary of the Ministry of Health in Beni-Suef seeking his approval for conducting the study. All staff nurses were invited to participate in the study. Data about the hospital such as number, names, and the addresses were obtained from statistical department at Beni-Suef University hospital and Health and Population Directorate of Beni-Suef, after that the Undersecretary of the Ministry of Health in Beni-Suef directed the letters to the directors of the studied hospitals.

The investigators conducted the medical and nursing directors of each hospital with the approval letter and explained the nature and purpose of the study to facilitate and control data collection process, and then each participant signed a written informed consent. The investigators informed them that participation was entirely voluntary. Anonymity of the information was assured. Using the data collection tool, nurses' intent to migrate and the related push and pull factors were assessed by staff nurses who completed the tools while the investigators were waiting them. Data collection occurred during evening shifts as nurses' workload was moderate giving them sufficient space to complete the questionnaires. The questionnaires took about twenty minutes to complete. Data collections lasted four months from the beginning of January 2023 to the end of April 2023. Finally, the questionnaires without logical errors and incompletion were analyzed.

Pilot Study:
The pilot study was conducted on 33 nurses who represent 10% of nurses at the previously mentioned settings in order to test the applicability of the constructed tools and the clarity of the included tools. The pilot also served to estimate the time needed for each subject to fill in the questionnaire. Nurses selected for pilot study was excluded from the study because some modifications were done based on the result of piloting.

Ethical Considerations:
The research ethics committee at Faculty of Medicine, Beni Suef University revised and approved the study. Participants were assured of the informed consent right and voluntary participation. The data were strictly protected and was only used for academic research purpose.

Statistical Data Analysis:
The collected data were analyzed using statistical package for social sciences **(SPSS 22.0)** for descriptive statistics in the form of frequencies and percentages for categorical variables. Means and standard deviations were used for continuous variables. Pearson correlation coefficient was used for measuring the correlation between study variables. Regression analysis was used for predicting the relationships between study variables. Chi square tests were used for correlating categorical variables.

Results

Table (1): Frequency and percentage distribution of studied nurses' socio-demographic characteristics (n=323).

Characteristics	N	%
Gender		
− Male	113	35
− Female	210	65
Age		
− less than 25	38	11.7
− 25<30	148	45.6
− 30<35	54	16.7
− 35<40	46	14.3
− 40 and more	37	11.7
Mean±SD	29.65±4.39	
Marital Status		
− Married	194	60
− Unmarried	129	40
Education		
− Diploma in nursing	92	28.3
− Bachelor degree	172	53.3
− Graduate Studies	59	18.4
Experience		
− less than 5	83	25.7
− 5<10	194	60
− 10 and more	46	14.3
Previous Travel abroad		
− Yes	79	24.3
− No	244	75.7
Working Unit		
− ICUs	92	28.3
− CCU	60	18.7
− ORs	45	14
− HD	34	10.7
− In-Patient	54	16.7
− Out-Patient	38	11.6

Table (2): Frequency and percentage distribution of studied nurses' intent to migrate (n=323).

Items	N	%
Intention to Migrate		
− Yes	225	69.7
− No	98	30.3
Likelihood to Migrate		
− Low	32	10
− Moderate	47	14.7
− High	146	45
− No	98	30.3
Possible Destination country		
− KSA	114	35.3
− Emirates	45	14
− Kuwait	69	21.4
− USA	33	10.3
− Germany	57	17.7
− UK	4	1.3

Table (3): Mean score of studied nurses' perception of push and pull factor for intent to migrate (n=323).

Factors	Mean±SD	Mean (%)	Rank
Push Factors			
− Work Environment	4.33±0.71	86.6	1
− Economic	4.23±0.57	84.6	2
− Professional	4.18±0.65	83.6	3
− Health system	3.83±0.54	76.6	4
− Political	3.22±0.72	64.4	5
− Social	3.02±0.63	60.4	6
− Overall Push Factors	3.77±0.69	75.4	
Pull Factors			
− Salary and Compensation	4.43±0.58	88.6	1
− Management Support	4.21±0.79	84.2	2
− Nursing Image	3.97±0.69	79.4	3
− Career Development	3.96±0.65	79.2	4
− Educational Opportunities	3.88±0.75	77.6	5
− Job Security	3.85±0.59	77	6
− Family and social	3.67±0.73	73.4	7
− Personal Ambition	3.47±0.81	69.4	8
− Overall Pull Factors	3.93±0.78	78.6	
Overall intent to migrate Factors (Push and Pull)	3.84±0.67	76.8	

Table (4): Correlation and regression between push and pull factors and overall nurses' intent to migrate (n=323).

Variables	r (P)	R^2	F	P
Push Factors	0.86	0.97	1233.543	0.000**
Pull Factors	(0.000**)	0.96	1897.652	0.000**

** Statistical significance at P<0.01

Table (5): The relationship between studied nurses' socio-demographics and their intent to migrate (n=323).

Characteristics	Intention to Migration				χ^2	P-value
	Yes		No			
	N	%	N	%		
Gender						
− Male	95	29.3	18	5.7	15.290	0.000**
− Female	130	40.3	80	24.7		
Age						
− less than 25	29	9	9	2.7		
− 25<30	114	35.3	33	10.3		
− 30<35	23	7	31	9.7	87.152	0.000**
− 35<40	38	11.6	9	2.7		
− 40 and more	21	6.7	16	5		
Marital Status						
− Married	119	37	75	23	13.628	0.000**
− Unmarried	105	32.7	24	7.3		
Education						
− Diploma in nursing	40	12.4	52	16		
− Bachelor degree	139	43	33	10.3	29.971	0.000**
− Graduate Studies	35	11	24	7.3		
Experience						
− less than 5	135	41.7	59	18.3		
− 5<10	57	17.7	26	8	13.215	0.001**
− 10 and more	33	10.3	13	4		

** Statistical significance at P<0.01

Table (1): Summarized the socio-demographic characteristics of studied nurses. Regarding their gender, about two thirds of studied nurses (65%) were female. Nearly half of them (45.6%) were in the age group of 25-30 years. About two thirds of nurses (60%) were married. Pertaining to their education, more than half of nurses (53.3%) had a bachelor degree in nursing. About two thirds of nurses (60%) had experience between 5 and 10 years. Concerning their working units, the highest percentages (28.3%, 18.7%) of studied nurses were working in ICUs and CCUs, respectively. Regarding their travel abroad, more than three quarters of nurses (75.7%) had not travelled previously.

Intent to migrate and possible destination countries:
Table (2): Displayed studied nurses' intent to migrate and their possible destination countries. More than two thirds of nurses (69.7%) had intent to migrate with the highest percentage of them (45%) had high likelihood to migrate. The highest percentages of studied nurses (35.3%, 21.4% and 17.7%) intend to migrate to Kingdom of Saudi Arabia (KSA), Kuwait and Germany, respectively.

Nurses' perception of push and pull factors:
Table (3): Illustrated nurses' perception of push and pull factors of intent to migrate. The studied nurses revealed high perception of overall factors (push and pull) with mean and SD (3.84±0.67). The overall mean and SD of push factor was high (3.77±0.69). Regarding to the sub-factors of pushing factor, the highest mean and SD score was for work environment, economic and professional factors (4.33±0.71, 4.23±0.57 and 4.18±0.65) respectively. The overall mean and SD score of pull factor was high (3.93±0.78). Pertaining to the sub-factors of pulling factor, the highest mean and SD score was for salary and compensation, management support, nursing image and career development (4.43±0.58, 4.21±0.79, 3.97±0.69 and 3.96±0.65) respectively.

Correlation and regression analysis between push and pull factors and overall nurses' intent to migrate:
Table (4): Revealed a statistically significant positive correlation between overall push and pull factors (r=0.86, P=0.000). The regression models between push factors as well as pull factors as the independent variable and overall nurses' intent to migrate as the dependent variable were statistically significant (F= 1233.543, P=0.000, F=1897.652, P=0.000) respectively. The coefficients of determination (R^2) for push and pull factors were (0.97 and 0.96) respectively which means that both push and pull factors could independently contribute to significant prediction of 97% and 96% of the nurses' intent to migrate.

The relationship between studied nurses' socio-demographics and their intent to migrate:
Table (5): Illustrated that there were statistically significant relationships between nurses' intent to migrate and their gender (χ^2=15.290, P=0.000), age (χ^2=87.152, P=0.000), marital status (χ^2=13.628, P=0.000), education (χ^2=29.971, P=0.000) and their experiences (χ^2=13.215, P=0.001).

Discussion
Intent to migrate and possible destination countries:
More than two thirds of nurses had the intention to move, with the biggest percentage having a significant propensity to do so, according to the current study. Given the push and pull variables, it is possible to identify and explain the high number of nurses who intend to migrate. In a similar vein, **Abou Hashish & Ashour, (2020)** who examined the causes of and strategies for reducing brain drain (migration) among Egyptian nurses, noted that the majority of the nurses they surveyed expressed a desire to migrate and visit overseas. According to **Poudel, et al., (2018)** investigation of nursing students participating in pre-registration programs in Nepal, the majority of students showed some wish to migrate, with 75% of those students listing continuing their education abroad as the reason.

In a similar line, **Lee, (2016)** who investigated factors impacting nursing students' purpose to immigrate in South Korea, found that nursing students' intent to immigrate was moderate. The majority of Irish nursing and midwifery graduating students reported an intention to migrate abroad, and roughly three-quarters of them intended to return within five years, according to **Deasy, et al., (2020)** analysis of the factors influencing final-year nursing/midwifery students' intentions to migrate after graduation. More than half of Asian and African medical students who received their education in China expressed a desire to live abroad either temporarily or permanently, according to **Li & Sun's, (2019)** cross-sectional survey.

In the same line, **Santric-Milicevic et al., (2015)** found that nearly three quarters of respondents in their study of college and specialist nursing graduates in Serbia expressed an intention to work abroad. About a quarter of the nurses had a concrete strategy in place to work abroad. The majority of the study subjects had intents and solid plans to work in Japan, according to **Effendi et al. (2021)** who investigated the determinants of Indonesian nursing students' intention to migrate overseas to work and implications for sustainability. The majority of nurses who have completed studies plan to move to Kuwait,

Germany, and the Kingdom of Saudi Arabia (KSA), in that order.

According to **Poudel et al., (2018)** who pointed that Australia was the most popular travel destination. The United States, Canada, and the United Kingdom closely followed this. **According to Li and Sun, (2019)** who noted that USA was the most popular destination for long-term stays and China was the most popular short-term destination for students planning to stay abroad. According to **Effendi et al., (2021)** who stated that the majority of the study individuals planned to work in Japan.

Nurses' perception of push and pull factors:

The current study revealed high nurses' perception of overall factors (push and pull). Also, the study revealed high perception of nurses regarding the overall mean of push factor. Regarding to the sub-factors, the highest mean score was for work environment, economic and professional factors respectively. Also, the study revealed high perception of nurses regarding the overall mean of pull factor. Pertaining to the sub-factors, the highest mean score was for salary and compensation, management support, nursing image and career development respectively.

Likewise, **Abou Hashish & Ashour, (2020)** reported that economic and work environment reasons were reported as the most influential for nurses' brain drain (migration). Similarly, **Poudel et al., (2018) study** indicated that subjects with lower professional identity and those who reported nursing was not their first choice were likely to express migration intention. Economic, political or to be with family and relatives were also among the top five reasons. The study also identified low salaries, unemployment, poor working conditions, insufficient postgraduate education, and a lack of professional autonomy in Nepal as reasons for their intention to migrate.

Congruently, **Dywill, & O'brien, (2013)** who conducted a review to identify the reasons why nurses continue migrating across international borders reported that motivators to nurse migration were linked to financial, professional, political, social and personal factors. Although economic factors were the most commonly reported, they were not the only reason for migration. This was especially evident among nurses migrating between developed countries. **Deasy et al., (2020)** reported that pay, working conditions and career were ranked as influencing intentions to migrate. The study results also illustrated that educational opportunities and friends predict migration, while family and obligation were protective factors.

Moreover, **Iqbal et al., (2021)** who investigated intention to migrate from china reported that several push-and-pull factors have been identified for both

inflow and outflow of skilled human capital in China. The findings of this study derived those high wages outside China and low wages within China are considered as the top reasons to leave China. In addition, more opportunities and a better lifestyle in the host countries are the key factors to push skilled human capital from China.

Correlation and regression analysis between push and pull factors and overall nurses' intent to migrate:

The current study revealed a statistically significant positive correlation between overall push and pull factors. The regression models between push factors as well as pull factors as the independent variable and overall nurses' intent to migrate as the dependent variable were statistically significant and could independently predict ninety-six percent and ninety-five percent of nurses' intent to migrate respectively.

In the same vein, **Abou Hashish & Ashour, (2020)** reported that both push and pull factors can predict about 99.6% and 97.5% of the nurses' brain drain, respectively. On the other side, **Poudel et al., (2018)** reported that nursing as first choice; belongingness and satisfaction with clinical learning environment were found to be significant predictor of professional identity. Belongingness and satisfaction with clinical learning environment thus indirectly predicted migration intention through their influence on professional identity.

Lee, (2016) also reported that the variables that were independently associated with intention to migrate were class year and having previously considered the possibility of overseas employment on admission to nursing school. **Li & Sun, (2019)** reported that the intention to migrate to high-income countries was associated with female gender and higher academic grades. **Santric-Milicevic et al., (2015)** reported single graduates and those with a friend or relative living abroad were more likely to consider working abroad than were their counterparts. The likelihood of considering working abroad was decreased when the individuals' financial situation was improved.

Additionally, **Effendi et al., (2021)** stated that Factors associated with having migration intention, as well as a definite plan to work in Japan, were age, residence, and overseas experience. Other factors related to a definite plan to work abroad were family income, mastering a foreign language, knowledge about the nurse migration related to Indonesia-Japan cooperation, and their motivations to migrate to Japan.

The relationship between studied nurses' socio-demographics and their intent to migrate:

The current study revealed statistically significant relationships between nurses' intent to migrate and their gender, age, marital status, education and their

experiences. Congruently, **DywilI, & O'brien, (2013)** reported that age and marital status variables while significantly associated with intent to migrate, while on the opposite side marital status variable was not significantly associated with intent to migrate. On contrary, **Lee, (2016)** reported that studied subjects' ages and gender were not significant statistically associated with migration intention. Incongruently, **Li & Sun, (2019)** indicated that subjects' gender was not significantly associated with intent to migrate.

Conclusion

The current study concluded that nurses' intent to migrate is a critical problem threatening Egyptian healthcare system particularly in the presence of severe nursing shortage and increased demands. This study supported the common push and pull factors related to the causes of nurses' migration. Among different push and pull factors, economic factors as salaries and benefits were the most commonly acknowledged by nurses. Although economic factors are the most reported, they are not the only reasons for nurses' migration. Different professional, work environment, career development and managerial factors were also reported.

Recommendations

In the light of the finding of the study, the following recommendations were formulated:

For policy makers:

Addressing the key push and pull factors reported by nurses through supporting and strengthening the nursing sector to improve their conditions and designing retention strategies through:

- Improving financial condition of nurses by increasing their salaries and benefits to the level that guarantees better living conditions and social welfare.
- Creating supportive work environment and providing necessary supplies and materials.
- Providing continuous professional and career development programs.
- Creating better nursing image through professional marketing programs and mass media.

For researchers:

- Conducting both qualitative and quantitative studies on large scale for deep understanding of the phenomenon of nursing migration in Egypt as well as the driving and mitigating factors.

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