SECTION 1. Macroeconomic processes and regional economies management

Oya Korkmaz (Turkey), Nüket Kırcı Çevik (Turkey)

Analysis of the reasons that determine Turkish nurses' preference of working abroad by probit model

Abstract

This study aims to investigate the factors that determine the preferences of nurses working abroad. The survey results of 275 nurses taken into consideration and applied to two different hospitals were analyzed by SPSS and Stata software packages. It was detected that the variable having the highest positive effect is age variable. The older they are the less they prefer to work abroad. The factors which motivate nurses to prefer a job abroad include being a university graduate, being a male, having at least one child, having a monthly income higher than 2000 Turkish Lira (USD/TRY 1.7810), longer weekly working hours in Turkey. On the other hand, being less-experienced negatively affects the preference of working abroad. The less experienced they are the less they prefer to work abroad. This study is limited to one country under investigation; therefore, further research needs to be extended to other countries. The results of the research can be used to stop nurse migration and to prevent human resources and economic losses caused by nurse migration. For this research to draw attention to the issue of foreign nurses, which is a recently popular method, and due to the reason for studies regarding the determination of what are the preferences for them to work abroad to be few in the literature, it is considered to be important to fill this gap.

Keywords: foreign nurse, foreign nurse candidates, foreign-trained nurses.
JEL Classification: F22, F23, J61, J24, J44.

Introduction

Foreign nurses constitute a major part of human resource and especially of qualified health personnel. It is seen that in recent times, global healthcare organizations have tended towards foreign nurses. The reason is that the healthcare system encounters great problems in many countries due to lack of nurses. Such countries solve this problem by importing foreign nurses. It has been a popular method recently. The most severe crisis of the global health sector is qualified human resource shortage. It is seen that the countries where the shortage is experienced most are developed countries. Foreign nurses prefer to work in other countries due to social, political and economic stability. Foreign nurses are beneficial not only to the countries where they work but also to their own country. Foreign nurses shall have increased their level of knowledge, skills and professionalism when they return home from the countries where they work. Thus, they make great contribution not only to the delivery of quality health services in their own country but also to the economic development of their own country because of the high salary they receive. However, for the purpose of delivering quality health services in underdeveloped countries, labor force drain to developed countries has to be stopped through human resources policies although it is beneficial (Blouin, 2005; Gostin, 2008).

Nurse import is regarded as a beneficial strategy against blocked labor force. However, institutions shall have to double the effort they make to retain the nurses they have if no measure is taken in the next twenty years. For this reason, suitable human resources policies should be developed and implemented in advance so that the global health sector does not have difficulty in the future. Both domestic and foreign hospitals prefer foreign nurses with the thought that they are more economic. Foreign nurses are a reaction to nurse shortage by force of global and local nurse labor force policies. The United States of America is the country that employs the highest number of foreign nurses in the world. The United States of America Health and Human Services Department (HHS) considered that, in the first 20 years of the 21st century, the country population would increase by at least 18% and the elderly population (aged 65 and older) would increase threefold. It stated that the need for nurses would be 275.000 as of 2010. It predicts the need for nurses to be 800.000 for 2020 (Brush et al., 2004).

Nurse shortage is one of the primary problems of healthcare organizations. Nurse migration plays a significant role in eliminating nurse labor force imbalance. It is seen that the foreign nurse market has gradually grown especially in industrialized countries. It is perceived that foreign nurses prefer global healthcare organizations for professional development and personnel safety. It is seen that the core element that increases competition in the global

health sector market is nurses. Moreover, it is observed that nurse shortage is a factor effective in the increase of health costs and the creation of excessive workload. At the same time language is an important factor in the determination of the country to which foreign nurses shall go. On the grounds that speaking a language fluently is highly important for nurses in patient care, nurses rather prefer to go to the countries in which their mother language is spoken. For foreign nurses, the global health sector has not only advantages but also disadvantages. One of them is to be exposed to discrimination due to religion, race and color and to experience double standard in the country they go (Kingma, 2007).

Globalization increases the difference between rich and poor countries. In consequence of this difference, nurses have been obliged to migrate from one country to another having better living and working conditions. It is seen that the leading factor that is effective in migrating from one place to another for nurses is global communication devices and transport vehicles. Global communication devices and transport vehicles are cheap and easy-to-use. For this reason, nurses are able to easily establish communication and network with the people in the countries from which they come. Thus, it may be easier for nurses to migrate from one place to another (Haour and Davies, 2008).

Nurse shortage puts global health initiatives in developed countries in jeopardy. Developed countries plan to overcome this problem in two ways. The first one is to increase the number of sustainable local nurses while the second one is to invest in nurse training capacity in underdeveloped countries and try to overcome this problem. Thus, underdeveloped countries become the nurse supplier of developed countries. Both supplier countries and immigrant-receiving countries meet the human resource needed/to be needed by the world health services. At the same time, nurse shortage in developed countries helps to the acceleration of nurse migration and retaining activities. However, the number of qualified nurses supplied from underdeveloped countries may fall short in the next years. So, it is required to make necessary investments in human resources to be needed by the global health sector. Developed countries have to make necessary investments not only in the nurses in underdeveloped countries but also in their own nurses. Otherwise, it is explicit that no good results shall be taken from the health services that are rendered only by foreign nurses (Aiken et al., 2004).

In the world, most countries face problems of health workforce shortages and misdistribution. Thus, medical tourism has emerged as a key economic strategy for several countries (Kanchanachitra et al., 2011). As the European population ages, the demand for nursing care increases. Yet, a shortage of nurses at the labour market either exists or is predicted for most European countries. Whereas the use of technology could increase optimal use of nurses' time to some extent, it is unlikely to resolve the issue (Heinen et al., 2013). Serious consequences from nurse migration include the loss of nursing educators and a weakening of nursing schools and the country's health system (Mcelmurry et al., 2006). For healthcare, the most important labor force of global human resources is nurses. The objective of this study is to analyze the factors that determine the preference of the foreign nurses who constitute a major part of human resource for global healthcare organizations for working in global healthcare organizations.

For the success of foreign-trained nurses in the foreign nurse labor market, it is required to make necessary investments in nursing schools and prepare curriculums that are compatible with other countries' curriculum. It is of great importance to make such regulations so that nurses pass the exams to be made in the countries where they shall work. Moreover, nurses should adapt themselves to working conditions. It is seen that nursing schools play a crucial role both in training the foreign nurses who fulfill working conditions in another country and meeting the deficit of nurses needed by the global market. For this reason, it is necessary to considerably increase the level of support given to nursing schools (Aiken, 2007).

1. Global health sector and nurses

Global health is a multidimensional term that contains the social, political, economic, technological, environmental and cultural matters which affect health and healthcare all around the world. Global health is accepted as an area of application and research of all disciplines and consequently nursing. Given the aforementioned, it is seen that it is compulsory to organize undergraduate, graduate and postgraduate education programs in nursing in such a way to cover regional, national and global health (Kaya, 2010). Health sector needs adequate number of well-trained and well-motivated nurses for the purpose of providing patients with high-quality and safe health service. It is seen that the said need increases day by day depending on economic developments, increasing and aging population, technological progress, increasing patient expectations and ill or injured nurses. It is perceived that some of the countries meet the increasing demand by employing foreign nurses. The host

country is required to develop some policies so that foreign nurses can work in another country. Such policies include regulations that allow foreign nurses to work in another country, certification processes and visa procedures. On the part of foreign nurses, however, the biggest problem is language. Today, it is observed that many countries meet their nurse deficit by employing foreign nurses. It is one of the advantages of globalization in the health sector. It is also of paramount importance not only to employ in foreign countries but also to retain nurses who play a key role in rendering quality health service. Otherwise it is seen that excessive workload, long working hours, insufficient salary, discrimination, insufficient social support increase the rate of turnover for foreign nurses (Simoens et al., 2005).

In the population dynamic which decreases on one hand and increases on the other, health staffs are also getting older and decreasing in number. When it is considered that 3-5 years' period is required to train a nurse, employing required staffs from abroad is carried out both faster and without any education expenses. In the free circulation of the health staffs, "push" and "pull" factors are effective. While push factors refer to the characteristics of the migration-receiving country which encourage migration, pull factors refer to the characteristics of the emigrant country which result in external migration. Increasing expectations of the community, changes in the disease structure are also seen as a factor which speeds up migration (Yıldırım, 2009).

Foreign nurse migration means brain drain from one country to another with the demand of personnel safety and quality living. It is seen that foreign nurse brain drain negatively affects supplier countries socially, politically, economically, technologically, environmentally and culturally. It is explicit that nurse migration from underdeveloped countries to developed countries takes place due to reasons such as income, better working conditions, learning, application and career opportunities, job security, living conditions, opportunities for family members, language, cultural similarity/difference, religious similarity/difference and climate. However, today, foreign nurse migration is not only to developed countries but also to regions such as Asia, Africa and Caribbean. Experienced nurse shortage (i.e. foreign nurses) is one of the strong demands of the global market and especially industrialized countries. The said demand of the global market is satisfied by using the strategy of either bringing foreign nurses from abroad or employing student nurses in shifts or full-time. It is perceived that the most important problem of the global health sector is nurse shortage due to imbalanced distribution of nurses. This problem may be solved through international employment policies (Kingma, 2001).

As developed countries make up their shortage of personnel by importing foreign nurses from underdeveloped or developing countries, they harm both the economy and the health system of the countries from which nurses come. The reason is that the investments made for training skilled nurses go down the drain. Moreover, the health system of nurse exporting countries weakens. Furthermore, inequities occur in the distribution of nurses in the world and concentrations are encountered in certain regions. The United States of America, England, North Europe countries, Australia, New Zealand and North East Asia countries are the primary nurse importing countries of the world. For the countries that experience nurse shortage potential solutions should be curriculums adapted to new social and economic conditions rather than nurse migration (Ivkovic, 2011). Besides, national policy makers have to take a number of measures to maximize human resource in nursing in order to make up the nurse shortage. Such measures should include nurses' working conditions, educational opportunities, incomes, professional developments, career opportunities and extended powers.

The majority of immigrant nurses are considered as valuable assets in the nursing labor market; they are perceived to be well educated and highly motivated (Omeri and Atkins, 2002). Shortage of nurses is one of those factors that makes hospitals short-staffed and increases nurses' workload. Heavy workload adversely affects nurses by threatening physical safety, lowering job satisfaction, and causing burnout (Al-Kandari and Thomas, 2008). Potential alternative strategies to address the shortage of nurses involve the processes such as: development of nursing leadership teams, building image and/or reputation of employee "friendly" organizations, recruiting new graduate nurses, socialization of new nurse and creating a work environment as attractive as possible for newly recruited nurses (Harvey et al., 2004).

2. Research methodology

2.1. Objective of the study. The subject of analysis in our study is nurses. Nurses constitute a major part of the human resource of the global healthcare organizations. The reason is that they are many in number in health services offer and they come into contact with patients most. Increasing and ageing world population increases the existing nurse shortage day by day. So, especially developed countries make up the shortage in question by employing the nurses in underdeveloped countries with higher salaries. Thus, developed countries make

up their nurse shortage by means of foreign nurses on the one hand and cause high health costs because of employing foreign nurses with higher salaries on the other hand. The factors that determine the preference of foreign nurses who are significant in terms of both health system and economy for working in another country were considered worthy of analysis.

2.2. Target population and sample. The target population was comprised of the nurses who served at Bulent Ecevit University Practice and Research Hospital and Atatürk State Hospital. In data collection, questionnaire forms prepared by making use of the literature were employed. Within the framework of the study, it was ensured that for Bulent Ecevit University Practice and Research Hospital 181 nurses out of 355 nurses returned the questionnaire forms. The rate of return for questionnaires is 50.98%. As a result of the analysis, 9 questionnaires were invalidated and 172 questionnaire forms were taken under review. On the other hand, for Atatürk State Hospital the return of questionnaire forms of 115 nurses out of 184 nurses was ensured. The rate of return for questionnaires is 62.50%. As a result of the analysis, 12 questionnaires were invalidated and 103 questionnaire forms were taken under review. Stata and SPSS package programs were employed in data analysis.

2.3. Method and technique used in the study. In this study, which analyzes the factors that determine the preference of nurses serving at Bulent Ecevit University Practice and Research Hospital and Atatürk State Hospital for working in global healthcare organizations, conventional questionnaire technique was preferred for collecting data. The questions of the questionnaire were prepared with the help of the information obtained as a result of literature review as closed-end questions. As assessment scale, five-point Likert scale which is a metrical scale was used. In the scale, 1 represents "strongly disagree", 2 represents "disagree", 3 represents "neither agree not disagree", 4 represents "agree", and 5 represents "strongly agree". The questionnaire contains questions not only about the personal and professional qualifications of the participants but also for determining their preference of working in global healthcare organizations.

2.4. Findings of the study. Under the title of findings of the study, firstly questions were asked about participants' personal and professional qualifications such as age, gender, place of residence, number of years worked in the unit, educational background, title, unit worked, marital status, number of children, number of years worked at the hospital, number of years worked in the profession, weekly working hours, income status and whether or not nurses prefer to work in a global healthcare organization. Table 1 summarizes the distribution of the answers given by nurses to personal and professional qualifications.

Table 1. Personal and professional qualifications of the nurses who took part in the questionnaire

Definitive statistics							
Variable		Number	Per. (%)	Variable		Number	Per. (%)
Age				Marital status			
Younger than 30		129	46.70%	Married		163	59.30%
Between 30 and 40		115	41.80%	Single	Base cat.	112	40.70%
Older than 40	Base cat.	31	11.30%	Number of children			
Gender				At least 1 child		220	79.70%
Male		29	10.50%	2 or more children	Base cat.	53	19.30%
Female	Base cat.	246	89.50%	Number of years worked at the Hospital			
Place of residence				Less than 3 years		56	20.40%
Urban		238	86.50%	Between 3 and 7 years		121	44.00%
Rural		37	13.50%	More than 7 years		97	35.30%
Number of years worked in the unit				Number of years worked in the profession			
Less than 3 years		93	33.80%	Less than 3 years		41	14.90%
Between 3 and 7 years		121	44.00%	Between 3 and 7 years		121	44.00%
More than 7 years		61	22.20%	More than 7 years	Base cat.	113	41.10%
Educational background				Weekly working hours			
High school and college	Base cat.	90	32.70%	49 or less	Base cat.	108	39.70%

Table 1 (cont.). Personal and professional qualifications of the nurses who took part in the questionnaire

Definitive statistics							
Variable		Number	Per. (%)	Variable		Number	Per. (%)
Bachelor degree		171	62.20%	50 or more		164	60.30%
Master's degree		14	5.10%	Income status (Turkish Lira)			
Title				Less than 2000	Base cat.	96	34.90%
Head nurse and assistant nurses		5	1.80%	More than 2000		177	64.40%
Charge nurse		45	16.4%	Would you like to work at a hospital abroad or at a foreign hospital having a branch in Turkey?			
Service nurse		225	81.8%				
Unit worked				Yes		201	73.10%
Intensive care		54	19.60%	No	Base cat.	74	26.90%
Internal units		99	36.00%				
Surgical units		99	36.00%				
Administration and others		22	8.00%				

According to this table, the age of participants is generally below 30 and female nurses constitute the majority by 89.50%. Moreover, nurses live in city centers and their period of service ranges from 3 years to 7 years in general. 62.20% of the participant nurses have bachelor degree and 81.80% of them are service nurses. Besides, nurses working in internal and surgical units constitute the majority of the participant nurses. Nurses are generally married and have one child and have worked at the hospital and in the profession for 3 to 7 years. Their weekly working hours are 50 hours and more and their income status vary from 2000 Turkish Lira to 3000 Turkish Lira (1 USD = 1.7810 Turkish Lira). To the question whether or not they want to work abroad, 73.10% of them answer "yes" and 26.90% of them answer "no". Those who answer "yes" are generally younger than 30 while those who answer "no" are generally older than 30.

2.5. Probit regression. If it is accepted in the studies where a dichotomous dependent variable is explained that the cumulative distribution function used for estimation belongs to "normal distribution", then Probit model emerges (Greene, 2002; Wooldridge, 2002). The objective of this study is first to explain the preference of the nurses serving at Bulent Ecevit University Practice and Research Hospital and Atatürk State Hospital for working at a hospital abroad and then to analyze the factors which determine such preference. To that end, probit model was estimated. Table 2 demonstrates the results of the probit model if the dependent variable is taken as "nurses' preference of working at a hospital abroad".

Table 2. Probit regression

Independent variables	Dependent variable: nurses' preference of working in a hospital in foreign countries			
	Coef.	Std. err.	*Z*	*P* > |z|
Constant	-1.560	0.414	-3.77	0.000
Age (< 30)	1.988	0.409	4.86	0.000
Age (30-40)	1.155	0.346	3.33	0.001
Gender (male)	0.761	0.437	1.74	0.082
Marital status (married)	0.191	0.237	0.81	0.420
Being a university graduate	0.505	0.207	2.43	0.015
Getting a master's degree	0.307	0.463	0.66	0.507
Having a child	0.361	0.273	1.32	0.187
Monthly income limits (more than 2000 Turkish Lira)	0.622	0.201	3.26	0.001
Working time limits (more than 50 hours a week)	0.305	0.201	3.09	0.002
Work experience (less than 3 years of work experience)	-1.008	0.294	-3.42	0.001
Work experience (3 to 7 years of work experience)	-0.322	0.275	-1.17	0.241
LR $Chi^2(11)$ = 96.45	Number of obs. = 275			
Prob > Chi^2 = 0.0000	Pseudo R^2 = 0.3011			
Log likelihood = -111.92063				

Note: Base categories are age (> 40), gender (female), marital status (single), being a highschool graduate, having two or more children, monthly income less than 2000 Turkish Lira, working time limits (less than 50 hours a week), work experience (more than 7 years of work experience).

Except for the variables of marital status, getting a master's degree, having a child and 3 to 7 years of work experience, all coefficient estimates are statistically significant at the significance level of 5%. As it is seen in Table 2, all independent variables other than work experience positively affect nurses' preference of working at a hospital abroad. Given the coefficient estimates, age variable has the highest positive effect with a coefficient of 1.9. In other words, being younger than 30 has a significant effect on nurses' preference of working at a hospital abroad. The older the nurses are the less they prefer to work abroad. The factors that motivate nurses in preferring a job abroad are being a university graduate, being male, having at least one child, having a monthly income more than 2000 Turkish Lira, and longer weekly working hours in our country. On the other hand, being less experienced negatively affects nurses' preference of working at a hospital abroad. The less experience the nurses have the less they prefer to work abroad.

Table 3 gives the marginal effects in relation to the variables (relative risk ratio). As it can be understood from the data in the table, being younger than 30 increases the probability of working abroad by 52%. On the other hand, being between the age of 30 and 40 increases the probability of working abroad by 30%. Being male increases the probability of working abroad by 16%, being married by 5%, being a university graduate by 15%, having a monthly income more than 2000 Turkish Lira by 19% and weekly working hours exceeding 50 hours by 10%. On the other hand, having a work experience of less than 3 years and of between 3 years to 7 years decrease the probability of working abroad by 32% and 9%, respectively.

Table 3. Marginal effects after probit regression

	dy/dx	Std. err.	*Z*	*P* > |*z*|
Age (< 30)	0.520	0.096	5.40	0.000
Age (30-40)	0.305	0.088	3.44	0.001
Gender (male)	0.166	0.064	2.57	0.010
Marital status (married)	0.056	0.700	0.80	0.424
Being a university graduate	0.152	0.064	2.36	0.018
Getting a master's degree	0.078	0.103	0.76	0.445
Having a child	0.113	0.916	1.24	0.217
Monthly income limits (more than 2000 Turkish Lira)	0.191	0.064	2.99	0.003
Working time limits (more than 50 hours a week)	0.106	0.061	1.75	0.081
Work experience (less than 3 years of work experience)	-0.320	0.098	-3.26	0.001
Work experience (3 to 7 years of work experience)	-0.094	0.082	-1.15	0.250

Notes: *dy*/*dx* is for discrete change of dummy variable from 0 to 1.

2.6. Principal components analysis. Principal components analysis and one-way analysis of variance were conducted only on the nurses who answered "yes" to the question "Do you prefer to work abroad?" In that application, the focus was on the main reasons why the nurses answered "yes". It is possible to determine the adequacy of data for principal components analysis according to different criteria. In the study, correlation coefficients between the variables were analyzed by means of the Barlett's Test of Sphericity and the Kaiser-Mayer-Olkin (KMO) Measure of Sampling Adequacy. In the Barlett's Test of Sphericity, rejection of null hypothesis indicates that the data is adequate for principal components analysis. On the other hand, the KMO Measure of Sampling Adequacy is calculated based on simple and partial correlation coefficients. It takes values from 0 to 1. The closer the KMO Measure of Sampling Adequacy is to 1 the more adequate the date is for principal components analysis. Table 4 demonstrates the results of the Barlett's Test of Sphericity and the KMO Measure of Sampling Adequacy. According to the results obtained in the Barlett's Test of Sphericity null hypothesis is rejected at a significance level of 1%. Besides, the KMO Measure of Sampling Adequacy was found to be 0.934. At the end of the Barlett's Test of Sphericity and the KMO Measure of Sampling Adequacy, it was concluded that the data was adequate for principal components analysis.

Table 4. KMO and Barlett's Test

KMO measure of sampling adequacy	0.934
Bartlett's Test of Sphericity	
Approx. Chi-square χ^2 [significant]	3306.086 [0.000]

Upon finding that the data was adequate for principal components analysis, the factors that determine participants' preference of working abroad were analyzed by principal components analysis. The method commonly used in the literature for deriving factors is to consider the factors having a variance participation percentage above 1. According to the results in Table 5, three factors having a variance participation percentage above 1 were obtained. These 3 factors are capable of explaining 69.84% of the total variance.

Table 5. Explained total variance

	Initial eigenvalues			Extraction sums of squared loadings			Rotation sums of squared loadinds		
Component	Total	(%) of var.	Cum. (%)	Total	(%) of var.	Cum. (%)	Total	(%) of var.	Cum.(%)
1	11.369	56.846	56.846	11.369	56.846	56.846	6.754	33.770	33.770
2	1.447	7.234	64.081	1.447	7.234	64.081	5.712	28.562	62.331
3	1.152	5.760	69.841	1.152	5.760	69.841	1.502	7.509	69.841
4	0.810	4.049	73.890						
5	0.713	3.565	77.456						
6	0.566	2.830	80.285						
7	0.515	2.576	82.862						
8	0.510	2.549	85.411						
9	0.423	2.113	87.524						
10	0.387	1.937	89.461						
11	0.344	1.719	91.180						
12	0.310	1.549	92.729						
13	0.279	1395	94.124						
. . .	. . .	. . .	. . .						
20	0.116	0.582	100.000						

For the purpose of simplifying the interpretation of factor loads, varimax factor rotation was applied. Table 6 gives the factors and factor loads obtained. In Table 6, the variables which have a factor load higher than 50% are shown. According to the results obtained, the first factor is made up of offering career opportunities, offering learning opportunities, offering educational opportunities, offering the opportunity of learning a foreign language, better income, high-quality service, safe working conditions, gaining international experience, creating opportunities for family members, better living conditions, job safety and opportunity of living in another country and in a bigger city. This factor is called as individual reasons factor. Due to the fact that the second factor contains rather territorial characteristics, it is called as territorial reasons. The third factor includes only "unemployment" variable and called as unemployment. As a result of the principal components analysis performed, the main reasons that determine nurses' preference of working abroad were identified as individual reasons, territorial reasons and unemployment.

Table 6. Rotated component matrix

Variables	Individual reasons	Territorial reasons	Unemployment
Offers career opportunities	0.843	0.316	0.027
Offers learning opportunities	0.832	0.285	-0.014
Offers educational opportunities	0.815	0.364	0.062
Offers the opportunity of learning a foreign language	0.767	0.310	0.083
Income is better	0.755	0.146	0.106
Service rendered is high-quality	0.696	0.397	0.145
Safe working conditions	0.626	0.535	0.075
Gaining international experience	0.624	0.467	0.180
Creates opportunities for family members	0.621	0.520	0.122
Better living conditions	0.613	0.298	0.452
Job safety	0.601	0.515	0.249
Opportunity of living in another country and in a bigger city	0.505	0.406	0.438
Religious similarities/differences	0.202	0.835	0.089
Cultural similarities/differences	0.263	0.821	-0.036
Contribution to countries' economic development	0.300	0.782	0.149
Today's transportation vehicles and communication devices are cheap and easy	0.288	0.765	0.113
Contribution to renewing and developing countries' manpower infrastructure	0.440	0.746	0.030
Social, political and economic instability in my country	0.407	0.603	0.237
Customer-focused service concept and quality standard	0.491	0.586	-0.022
Unemployment	0.026	0.015	0.919

2.7. ANOVA. The correlation between nurses' age, educational background and work experience differences and the factors that were obtained from principal components analysis and determine the main reasons of nurses' preference of working abroad was analyzed by one-way analysis of variance (ANOVA). Prior to Unidirectional Variance Analysis, Levene test was employed to analyze whether or not the group variances of age, educational background and work experience were equal for each factor. Null hypothesis which indicated that the group variances were equal was rejected at a significance level of 5%.

In the light of the information, Table 7 gives the ANOVA test results. These results demonstrate whether or not there is a significant difference in the average of the factors obtained from principal components analysis for age groups of younger than 30, between 30 years and 40 years, and older than 40. According to the results in the variance analysis table, finding a probability value higher than 5% shows that nurses' preference of working abroad for individual, territorial and unemployment reasons does not change by age groups. According to these results, the reasons for preferring to work abroad for nurses from different age groups are similar.

Table 7. ANOVA test

Factors	F-statistic	Significant
Individual reasons	2.527	0.082
Territorial reasons	2.660	0.072
Unemployment	2.526	0.083

It was analyzed by ANOVA test whether or not level of education created a significant difference on the factors that determine the preference of working abroad. The results are given in Table 8. According to the results in the variance analysis table, finding a probability value higher than 5% shows that nurses' preference of working abroad for individual, territorial and unemployment reasons does not change by level of education. The reasons for preferring to work abroad for nurses from different levels of education (high school, college, bachelor degree or master's degree) are similar.

Table 8. ANOVA test

Factors	F-statistic	Significant
Individual reasons	3.032	0.050
Territorial reasons	1.612	0.202
Unemployment	0.809	0.447

It was analyzed by ANOVA test whether or not work experience created a significant difference on the factors that determine the preference of working abroad. The results are given in Table 9. According to the results in the variance analysis table, finding a probability value higher than 5% shows that nurses' preference of working abroad for individual, territorial and unemployment reasons does not change by groups having different work experience. The nurses who have a work experience of less than 3 years, from 3 to 7 years or more than 7 years prefer to work abroad for individual, territorial and unemployment reasons. The nurses who have different work experience prefer to work abroad for similar reasons.

Table 9. ANOVA test (experience)

Factors	F-statistic	Significant
Individual reasons	1.409	0.247
Territorial reasons	0.212	0.809
Unemployment	2.138	0.121

Conclusion

There are many reasons that drive nurses to work in global healthcare organizations. Such reasons were analyzed in our study and it was determined that the effective factors originated from individual, territorial and unemployment reasons. It was found that, among individual factors, the variable having the highest positive effect was age. Being younger than 30 has a significant effect on the preference of working at a hospital abroad. The older the nurses are the less they prefer to work abroad. The factors which motivate nurses to prefer a job abroad include being a university graduate, being a male, having at least one child, having a monthly income higher than 2000 Turkish Lira, longer weekly working hours in Turkey. On the other hand, being less-experienced negatively affects the preference of working abroad. The less experienced they are the less they prefer to work abroad. It has been concluded in the studies that there are many factors which determine the preference of the nurses to work abroad. It is seen that one of these factors is sex as stated by Cortes and Pan (2012). Although the nurse labor substantially constitutes of women, it was stated in this study that men were more active than women in the preference of abroad work of the nurses. Hall et al. (2009) concluded that young nurses wanted to work abroad more when compared to group of middle-aged and old nurses. Schumacher (2011) on the other hand, concluded that the wages positively affected the nurse migration. Lorenzo et al. (2007) stated that foreign nurses were usually university graduates but few of them had master degree. Pascual et al. (2003) stated that the nurses who preferred to work abroad had one to three children as an average. Therefore, the findings which are obtained from these studies are seen to be supporting the findings which are obtained from our study.

Even though the awareness in international nursing and global health raises day by day, it has not reached the desired level yet. Nursing teachers play a crucial role in making it reach the desired level. For enabling nurses to take part in the global health system and raising their awareness, nursing teachers have to re-regulate the curriculum. Besides, global health-related scientific conferences need to be organized. Due to the fact that the sources written in this field are scarce, it is necessary to increase the number of sources to shed light on the subject. Another activity to perform for developing international health services is to develop joint projects with international healthcare organizations or participate in the existing projects. Apart from all these, in order to develop international health services, local and foreign student-teacher exchange programs have to be held at global level.

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