

# Global Health Competency of Nursing Personnel: A Cross-Sectional Study

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## Abstract

**Introduction:** As global health issues become more important, nursing education is undergoing change to reflect the changing global health environment and new knowledge. Nurses are required to be able to understand and interact with patients of diverse cultural backgrounds and characteristics and have relevant global health competencies.

**Objectives:** The aims of this study were to determine the GHC status of nurses and to analyze the association between GHC and nurse characteristics.

**Methods:** This study was a cross-sectional descriptive survey using a convenience sampling method. Data were collected from 473 nurses to collect information about participants' GHC and general characteristics, including gender, age, nursing experience (years), experience of caring for foreign patients, English communication skills, learning experience in global health, and global preparedness. Multiple regression analysis was used to determine the relationship between GHC and nurse characteristics.

**Results:** The mean GHC score of nurses was 2.21 out of 4. "Nursing practice in globalization" was the most important global health competency, while "resource management in globalization" was the one that was most necessary. In addition, "Resource management in globalization" was the highest priority for global health competency. Global preparedness ( $\beta = .25$ ,  $p < .001$ ) and the perceived necessity of GHC in nursing practice ( $\beta = .28$ ,  $p < .001$ ) were statistically significant factors influencing the global health competency of nurses.

**Conclusion:** Based on the relationship identified between GHC and the characteristics of nurses, it is essential to develop an education program for enhancing global preparedness and perception of the necessity of GHC.

## Keywords

competence, global health, globalization, nurse

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## Introduction

After the Millennium Development Goals (MDGs) expired in 2015, the United Nations announced the 17 Sustainable Development Goals (SDGs) that all countries must attain by 2030 (United Nations, 2015). While the MDGs focus on developing countries, the SDGs recognize all nations to be part of one planet (Naddeo, 2021). One Health stands out as a central notion in the health perspectives of the SDGs since all nations are interconnected. These worldwide developments and increasing globalization have necessitated an expansion in the role of nurses.

The global health competency (GHC) of nurses must therefore undergo a rapid transformation. GHC in nursing has to be shaped by the undergraduate curricula in nursing education

(Wilson et al., 2012). Global nursing demands that all nurses provide healthcare to diverse populations regardless of their practice environment (DeLaune et al., 2023). This expectation underscores the need to strengthen traditional nursing education methodologies on the subjects of global health and health equity. Global nursing competence should emphasize reinforcing

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nursing education and making efforts to effectively impart the impact of public health to prospective licensed students (Mbango, 2023).

## Review of the Literature

Despite the rising importance of GHC and ongoing attempts to establish goals for GHC education programs for nursing students, few studies have examined the effects of the global health improvement program for nurses (Kang et al., 2020). Nursing educators concur that they should be responsible for enhancing the GHC of nursing students (Upvall & Luzincourt, 2019). In addition, numerous nursing schools have recently established and implemented GHC improvement courses for nursing students (Boyer et al., 2019; Noh & Song, 2017). However, this is insufficient for practicing nurses, who continue to have difficulty finding GHC enhancement courses (Kang et al., 2020). Additional efforts are required to ensure that nursing professionals have access to adequate training and development opportunities.

### Purpose

To achieve this goal, nurses' GHC and perceived necessity of GHC must first be identified. In addition, factors affecting the GHC of nurses must be determined for the development of nursing courses. This study was therefore designed to investigate the following objectives: (a) to identify the GHC status of nurses and (b) to identify factors influencing their GHC.

## Methods

### Design

This descriptive study employed a self-report survey in which nurses' GHC and perceived necessity of GHC were evaluated and factors associated with GHC were identified.

### Research Questions

The main research question in this study is "What factors are associated with GHC of nurses?" The specific research questions were as follows: (a) the status of GHC and the perceived necessity of GHC for nurses; (b) the difference and relationship between GHC and Nurses' characteristics; (c) the association between GHC and Nurses' GHC.

### Setting and Participants

In hospitals, 500 nurses were recruited for the survey using a convenience sampling method. After excluding invalid results, the responses of 473 nurses who provided informed consent to participate in this study were used for data analysis. Using the G-power 3.1.9.2 program (Faul et al., 2009), the sample size required for multiple regression analyses to identify factors

affecting GHC was calculated. Assuming a medium effect size  $f^2 = .15$  (according to Cohen's guidelines), a significance level  $\alpha = .05$ , power  $(1 - \beta) = .95$ , and 17 predictors, the minimum number of participants required was 208. Based on this calculation, the number of participants was sufficient.

### Inclusion/Exclusion Criteria

Nurses who worked in clinical settings and provided patient care were included in the inclusion criteria. Exclusion criteria for participation are nurses who did not provide direct patient care.

### Measures

Participants' characteristics surveyed for data collection were gender, age, nursing experience (years), experience of caring for foreign patients, English communication skills, learning experience in global health, and global preparedness. English communication skills and global preparedness were evaluated using a five-point Likert scale.

GHC and its perceived necessity were evaluated using a measurement developed for nurses by Wilson et al. (2012) and translated by Lee et al. (2015). The need for the study was explained to the authors of the measurement via email and consent was obtained before use. The measurement consisted of 30 questions divided into six domains. It used a four-point Likert scale in which higher scores indicate higher competency and perceived necessity. For validation of the measurement, exploratory factor analysis was performed (Noh et al., 2019). To summarize the results, three factors and 25 items were selected when the eigenvalue was above 1.0 and factor loadings were above 0.5. Factor 1 was "Understanding of healthcare in globalization," Factor 2 was "Nursing practice in globalization," and Factor 3 was "Resource management in globalization." Cronbach's alpha was .81–.96 in the study conducted by Wilson et al. (2012) and .73–.90 in the study by Lee et al. (2015). In this study, Cronbach's alpha was 0.96 (Factor 1 = .85; Factor 2 = .92; Factor 3 = .94).

### Data Collection Procedure

The study was conducted between January and February 2018, and it involved recruiting nurses employed in hospitals located in South Korea. Both the approved organizations responsible for posting the survey recruitment notice and the participating nurses signed informed consent documents before conducting the survey. Self-report questionnaires were used to collect data, with nurses given a time range of 15 min to complete the questionnaires. To collect each completed survey, a return envelope was used.

### Statistical Analysis

Data were analyzed using Stata (16.1, StataCorp LLC, College Station, TX). Descriptive statistics, the *t*-test, and

Pearson's correlation analysis were used to analyze the characteristics of the participants. For identifying factors associated with GHC, multiple regression analysis was used.

### Ethical Considerations

To ensure the ethical conduct of this study, a research proposal describing the purpose and progress of the study was submitted and approval was obtained from the Institutional Review Board of the corresponding author's University (Approval No. 1044396-201712-HR-213-01, Approval date: Dec 26, 2017). Before they participated in the study, participants were required to provide permission to participate by signing documents that clearly outlined the objectives, advantages, possible risks, and procedures of the study. They were also informed that they had the option to withdraw from the study at any given time.

## Results

### Characteristics of Participants

A total of 473 surveys were analyzed. The relationship between GHC and the characteristics of participants is shown in Table 1. Most participants were female ( $n=464$ , 98.1%) with an average age of 31.5 years ( $SD$  6.4), and an average nursing experience of 7.2 years ( $SD$  6.4). The 51.8% of participants had experience for caring foreign patients. The majority of participants ( $n=419$ , 88.8%) had no educational experience in global health. The mean score of GHC was 2.2 ( $SD$  0.5).

### Differences and Correlations of GHC by General Characteristics

There is a significant difference identified between GHC and gender ( $t=2.13$ ,  $p=.034$ ), as well as between GHC and

**Table 1.** Global Health Competency by General Characteristics.

	<i>n</i>	%	<i>M</i> ( <i>SD</i> )	<i>t/r</i>	<i>p</i>
Gender					
Male	9	1.9		2.13	.034
Female	464	98.1			
Age			31.5 (6.4)	-.06	.204
Nursing experiences			7.2 (6.4)	-.09	.044
Experience for caring foreign patients					
Yes	245	51.8		0.25	.803
No	228	48.2			
English communication skills			2.2 (0.6)	.17	<.001
Learning experience in global health					
Yes	53	11.2		-3.10	.002
No	419	88.8			
Global preparedness			1.8 (0.7)	.31	<.001
Necessity of GHC			2.9 (0.5)	.31	<.001

( $N=473$ ).

learning experience in global health ( $t=-3.10$ ,  $p=.002$ ). A significant negative correlation was found between GHC and nursing experience ( $r=-.09$ ,  $p=.044$ ). In addition, a significant positive correlation was shown between English communication skills and GHC ( $r=.17$ ,  $p<.001$ ). Global preparedness ( $r=.31$ ,  $p<.001$ ) and the perceived necessity of GHC ( $r=.31$ ,  $p<.001$ ) were significantly positively correlated with GHC.

### Factors Affecting the GHC of Nurses

Multiple regression analysis was performed to determine the factors associated with the participation of GHC (Table 2). A test of multicollinearity showed that the variance inflation factor was 1.02-1.24, which is smaller than the reference value of 10. The model explained 17.56% of the variance in values. The adjusted  $R^2$  value was .18. The  $F$  statistic, with 5 degrees of freedom, was 20.94, and the  $p$ -value was less than .001. Global preparedness ( $\beta=.25$ ,  $p<.001$ ) and perceived necessity of GHC ( $\beta=.28$ ,  $p<.001$ ) were statistically significant factors associated with GHC.

## Discussion

The findings of this study emphasize the major role of "Nursing practice in globalization" in nursing practice and education. This study highlights the importance of nurses' preparedness to address global health issues in their practice and the recognition of the need for GHC. Incorporating these areas into nursing education programs and professional development opportunities is crucial; this will provide nursing professionals with the necessary skills to succeed in the rapidly changing healthcare environment of today.

To begin with, this study found a relationship between nurses' global preparedness, their GHC necessity, and their GHC. The importance of global preparedness is growing in the wake of the recent COVID-19 pandemic (Buheji & Buhaid, 2020). Before this study, relevant research in this field of healthcare was limited. This study can form a cornerstone that shows how global preparedness will be affected by the self-reported competency of nurses, as

**Table 2.** Factors Affecting Nurses' Global Health Competency.

Variable	<i>B</i>	<i>SE</i>	$\beta$	<i>t</i>	<i>p</i>	VIF
Nursing experiences	0.00	0.00	-.02	-0.53	.595	1.07
English communication skills	0.02	0.04	.03	0.59	.554	1.24
Learning experience in global health	0.10	0.06	.07	1.53	.127	1.08
Global preparedness	0.17	0.03	.25	5.37	<.001	1.25
Necessity of GHC	0.27	0.04	.28	6.71	<.001	1.02

$F=20.94$ ,  $p<.001$ ,  $R^2=.18$ ,  $Adj. R^2=.18$

Note. VIF, variance inflation factor.

their self-confidence depends on their level of preparation (Nguyen et al., 2018). In this study, the global preparedness of nurses was only assessed on a five-point scale. Concept development and appropriate development of measurement are required for an in-depth understanding of the factors affecting GHC, depending on the degree of perceived global preparedness by nurses.

Subsequently, there exists a noteworthy association between the perceived necessity of GHC among nurses and their GHC. Nurses' perceived necessity of GHC shows a significant correlation with GHC. A previous concept analysis has identified expectations of an individual's competence as an antecedent of nursing competence (Smith, 2012). The perception of nurses' competence may influence their GHC; therefore, their perception should be assessed and enhanced.

Although the results of this study did not show statistical significance, it is crucial to discuss the characteristics of nurses. Regarding the relationships between GHC and the characteristics of nurses, an unexpected finding was that the shorter the clinical experience, the higher the GHC. This is contrary to previous research, which has generally shown a positive correlation between nurses' clinical experience and their competency (Rizany et al., 2018). Although several factors could explain this result, it is thought to be because many Korean nursing schools have recently included globalization modules in their curricula (Korean Accreditation Board of Nursing Education, 2017). In Korea, the recognition of the need to improve GHC in the nursing curriculum came relatively later in comparison to other Western nations, including the United States, and Latin America (Wilson et al., 2012). Consequently, nurses with fewer years of experience would have had the opportunity to engage in courses related to GHC, but those with plenty of experience might have never taken such courses. These days, current education recommendations also emphasize that GHC is an essential competency (Clark et al., 2016) and that training programs should be developed for different health professions worldwide (Schleiff et al., 2020; Steeb et al., 2021).

English communication skills and learning experience in global health were positively correlated with GHC. This finding is consistent with research that determined an association between English fluency and GHC among nursing students (Lee et al., 2023). However, improving communication skills is not limited to the English language; when dealing with languages of other countries, nurses face cultural differences alongside language barriers. Although patients with English as a first language are uncommon, it is generally expected that in clinical settings in South Korea, English is used as an international language with patients who speak foreign languages (Park et al., 2014). To personalize their approach, nurses should understand how to use available language resources, such as language education programs. In addition, clinical leadership must have an organizational approach with strategies that include providing translation services (Chae & Park, 2019).

## **Strengths and Limitations**

This study highlights the importance of nurses' preparedness to address global health issues in their practice and the recognition of the need for GHC. At least three limitations need to be considered. First, GHC scores may be biased, given the self-reported nature of the measure. Second, the measurement tool for assessing GHC may have been insufficient to reflect actual nursing practice. In future research, multiple evaluation methods should be implemented, such as evaluation by superiors or patients, or assessment through interviews. Additionally, since the measurement tool of this study was developed to determine the GHC of nursing students, the development of a new measurement tool for nurses is needed. Third, our research was conducted before the COVID-19 pandemic, which has revealed the importance of GHC, and demand for training is therefore increasing. In the era of COVID-19, with travel and in-person encounters suspended, for nurses to develop real-world GHC must be proposed.

## **Implications for Practice**

Nursing education programs and professional development opportunities are crucial; this will provide nursing professionals with the necessary skills to succeed in the rapidly changing healthcare environment of today. The findings of this study form a foundation for the development of an enhancement program by analyzing the factors affecting the GHC of nurses.

## **Recommendation**

Based on the findings of this study, we can develop GHC enhancement programs with international collaboration. Health professionals, especially, nursing education institutions should reinforce curricula that emphasize knowledge exchange and experience sharing among nurses, both domestically and internationally, effectively preparing them for global health challenges (Frenk et al., 2022). Furthermore, when the development of the GHC curriculum, we also consider the clinical learning practicums (Kelly & Lazenby, 2019). Additionally, governments and relevant institutions should consider utilizing the study's results to propose and implement policies aimed at enhancing nurses' GHC. Further research and program evaluations should be conducted to continuously improve and adapt strategies for enhancing GHC among nurses.

## **Conclusion**

This study identified the GHC status of nurses and explored relevant factors. These findings can provide basic data when developing the content of relevant programs for nurses. Hence, an introduction to globalization and global healthcare resources should be included when developing such

programs. The study anticipates that its findings will aid in strengthening international collaboration in nursing education and healthcare institutions. Emphasizing the importance of GHC is not only linked to better patient outcomes but also contributes to the professional development of nurses. To prepare nurses for global health challenges, there is a crucial need to prioritize knowledge exchange and experiences both domestically and internationally.

### Author Contribution

Study conception and design: JS, WN, Data collection: JS, WN, Data analysis and interpretation: All authors, Drafting of the article: All authors, Critical revision of the article: All authors.

### Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.


### Ethical Statements

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