



Enhancement of Nurse Migration and Nurse Shortages Solution among G20 Countries

Yudi Ariesta Chandra^{a*}, Achir Yani Syuhaimi Hamid^b, Fatma Lestari^c, Nunung Nurhayati^d, Andrio Adiwibowo^e, Annida Falahani^f, Laurentia Dewi^g, Sri Yulia^h, Azimatul Aliyahⁱ, Juwi Athia Rahmini^j

^{a,b,i}Faculty of Nursing Universitas Indonesia, Depok, West Java, Indonesia

^{c,e}Faculty of Public Health/ Disaster Risk Reduction Center Universitas Indonesia, Depok, West Java, Indonesia

^dNursing School of PPNI West Java, Bandung, West Java, Indonesia

^fSuradadi Public Hospital, Tegal City, Central Java, Indonesia

^gDirectorate of Health Care Services of Health Center of Indonesia Self Defense Force, Jakarta, Indonesia

^hFaculty of Health Muhammadiyah Ahmad Dahlan University, Palembang, South Sumatera, Indonesia

^jFaculty of Nursing Muhammadiyah Jakarta University, Central Jakarta, Jakarta, Indonesia

*e-mail correspondence: yudi.chandra@ui.ac.id

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Abstract

Nurse migration among G20 countries increased as consequence of shortage of nurses in developed country members. Concrete strategies needed to address the issues. This study aimed to propose policy recommendation to the G20 Forum to enhance nurse migration system and long-term solution for shortages of nurses. A qualitative study was conducted to collect ideas for policy recommendation through experts sharing and focus group discussion. 190 participants involved. A descriptive qualitative approach was used to analyze the data. A policy recommendation was formulated into four themes and 11 categories. The themes included (a) harmonization for equal nursing competency qualifications, (b) reinforcement of brain drain anticipation and brain gain support, (c) improvement of regulatory and data system for nurse migration, and (d) collaboration enhancement with stakeholders for an enabling environment. The formulated policy recommendation may be used as a reference for current G20 leaders to create more concrete strategies for enhancing nurse migration system and long-term solution of shortages of nurses, as part of commitment on the health agenda. Considering the finding of this study highlighted the role of NNAs and NSAs for collaboration enhancement with stakeholders for enabling environment, we suggest a further study to identify more detail strategies to enhance NNAs and NSAs' role in enhancing registration, placement, and monitoring processes.

Keywords: Enhancement, Nurse Migration, Nurses Shortages Solution, Policy Recommendation

INTRODUCTION

Nurse migration among G20 countries increased as consequence of shortage of nurses in many of its country members. Recruitment of nurses from developing countries become a fit solution while nurses in low- and middle- income countries face poverty, limited employment, low income, and lack of promotion opportunities (Boldbaatar, 2020). The situation was exacerbated by economic insecurity, restricted chances for professional and personal progress, and a failure to enforce labor laws and nursing standards (Adversario, 2003; Quesada,

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1986; Venzon, 1985). In the contrary, getting a higher salary, better quality of life, opportunities for travel, and opportunities for skill development and career promotion, and a safer environment for family attracted nurses from developing countries to work in developed countries (Konlan et al, 2023; Pressley et al, 2023).

However, nurse migration brings potential threat to the source countries. International recruitment of nurses caused most experienced and well-qualified nurses migrated from in the source countries, thus undermining the country's health-care quality. The source country loses not just critical human resources, but also significant investments in education, training, and income generation (Marchal and Kegels, 2003, Kline, 2003). Therefore, nurse migration is a short-term solution for the shortages of nurses, otherwise it will bring negative impact to the health quality services to the source countries.

For long term solution of the shortages, enhancing protection, capacities, and well-being of nurses are necessary (Buchan et al, 2015; Marc et al, 2019; Turale and Nantsupawat, 2021). Nevertheless, workplace violence (Kafle et al., 2022), health and safety hazards (Vaismoradi et al., 2020), and human resource issues (Shahmari et al., 2022) remained to hinder safety for nurses during working. The situation became more challenging when COVID-19 Pandemic occurred, when during that situation nurses experienced worsening risks, infections and death (Fernandez et al., 2020). In the middle of 2021, the International Council of Nurses (ICN) reported that around 115,000 nurses and other healthcare staff died from COVID-19 (ICN, 2021). Those situations contribute to the shortage of nurses.

In 2022, G20 Forum paid attention to global health resilience issue while global health architecture became one of three key priorities of the forum. Indonesia as the host, lead dialogues to enhance global health policy through G20 Health Working Group (IMoH, 2022). Also, Think 20 (T20), as G20 engagement group, facilitated health experts and scientists to share policy recommendations to support G2 Leaders on the dialogues of global health architecture (T20, 2022). Beforehand, ICN proactively urged G20 leaders to pay attention to the nurse migration issues, particularly to mitigate the negative potential impact that might arise from migration of nurses among G20 countries. ICN had recommended the G20 forum to prioritize protection for nurses and allocate public health sector at the center of their economic recovery packages in order to mitigate expected crises and make the world more resilient for nurses (ICN, 2020; ICN, 2019).

This study aimed to propose policy recommendation to enhance nurse migration system and long term solution of shortages of nurses among G20 countries. We believed that the recommendation resulted from this study is relevant to the current context where shortages of nurses and nurse migration among G20 countries continues to be a critical issue (ICN, 2024; WHO, 2025).

METHODS

A qualitative study through a one-day international webinar was conducted to collect ideas for a policy recommendation from experts and participants. This project received approval from the Nursing School Ethic Committee of fourth author (Number III/021.1/KEPK-SLE/STIKEP/PPNI/JABAR/VII/2022). The webinar was conducted using Zoom application and consisted of two sessions: experts sharing and focus group discussion (FGD).

At the first step, experts sharing aimed to socialize updated information of related policies or studies from the experts. This step was crucial as a preparatory measure that framed the discussions and ensured the participants had the necessary knowledge to provide meaningful data on the FGD at the second step. We purposively invited experts who meet following criteria: (1) Having bachelor qualification or more, (2) experience in developing policy or policy recommendation; (3) At least on the middle-level management of government or non-government organization who working on nursing workforce. During the experts presented their materials, we noted important information related to the aim of the project. Besides that, the updated information presented by the experts was used to increase the understanding of participants related to issues that would be discussed on the FGD.

At the second step, FGD aimed to collect ideas of recommendation from participants. We used feature Break Out room on Zoom application to conduct the FGD. We divided participants into four groups. The topic of each

group were (a) Nursing competency qualifications for Group 1; (b) Policies for nurse utilization for Group 2; (c) Stakeholders collaboration for Group 3; and (d) Information and database system for Group 4. We adopted ICN Position Statements on International Career Mobility and Ethical Nurse Recruitment (2019), ICN Position Statements on International Trade Agreements (2007), and WHO Global Code of Practice on the International Recruitment of Health Personnel (2010) to create the topics. Those topics indicate themes of solution to optimize nurse migration system as well as reduce shortages of nurses.

Participants with any background from the first session were invited to join this project, particularly nursing academia and nurse practitioners from Indonesia and overseas. We explained that participation in this project was voluntary, and they could withdraw their participation without any consequences. We explained that we would record and took notes during the FGD. Before we start the webinar, we asked them to fill informed consent to participate. A total of 190 participants were involved.

For data analysis, we adopted the descriptive qualitative analysis approach suggested by Doyle et al. (2020). We used the approach because it allows: (1) analysis of various data: expert information and focus group discussion; and (2) straightforward analysis, which is in line with the aim of our project: to identify and clarify the policy recommendation directly. We conducted the data analysis as follows. The data were transcribed. Participants' key statements related to enhancement of nurse migration and nurse shortages solution were extracted and coded. Notes were added during the process. Then we grouping the data into categories, and linking the similar categories into themes.

To ensure the trustworthiness of the findings, we followed strategies suggested by Lincoln and Guba (1985). We ensured the extracting of themes and main themes was accurate. We conducted member checking to ensure confirmability of the findings. Then, we presented data collection, analysis, and results in detail to ensure the transferability of the findings.

RESULTS

We invited five experts from national and international institution based on inclusion criteria. Table 2 showed the characteristic of experts.

Table 2. Characteristic of Experts

Code	Sex	Type of Institution	Education Background	Position
AA	Female	Government agency	Master	Top management
AT	Female	International level agency	Master	Middle management
HF	Male	National level agency	Doctoral	Top management
MY	Male	National level agency	Bachelor	Top management
SB	Male	Government agency	Master	Top management

Characteristic of participants (Table 3) described sex, job, education background, length of work, and working country of participants that involved in the FGD. According to Table 3, most of participants were female (72,63%) and working as nurses (98,42%) with length of work was less than 10 years in majority (34,74). Most of them were having master degree in education background (45,79%). Even though most of them were working in Indonesia (94,21%), several participants were working overseas.

Table 3. Characteristic of Participants

Variable	f	%
Sex		
Male	52	27,37
Female	138	72,63
Job		
Nurse	187	98,42
Non Nurse	3	1,58
Length of Work		
<10 years	66	34,74
10-20 years	60	31,58
>20 years	64	33,68

Education Background		
Senior High School	3	1,58
Diploma III	21	11,05
Bachelor	64	33,69
Master	87	45,79
Doctoral	15	7,89
Working country		
Indonesia	179	94,21
Overseas	11	5,79

We formulated four themes and 11 categories as policy recommendation to enhance nurse migration system and long-term solution of shortages of nurses among G20 countries (Table 4).

Table 4. the Formulated Recommendation	
Theme	Categories
Harmonization for equal of nursing competency qualifications	Provide training for the language of host countries in origin countries
	Develop nursing curricula and training in nursing schools in line with international standards and market demands
	Establish agreements of mutual benefit cooperation for nurse migration at G20 forum level
Reinforcement of brain drain anticipation and brain gain support	Establish policies to support training for language at the origin countries
	Increase salary and other reward mechanisms for nurses
	Apply for the equal rights and obligations to migrant nurses at the host countries
Improvement of regulatory and data system for nurse migration	Provide a digital-based registration system and an accessible transnational database
	Publish official list of credible agencies from the government
Collaboration enhancement with stakeholders for an enabling environment	Enhance the role of nurse association and the nursing colleges association in registration, placement, and monitoring processes
	Enhance linkages among National Nurses Associations (NNAs) of G20 members for a better advocacy system on migrant nurses
	Reinforce the house of representatives to strengthen nurses' role in post pandemic period

Theme 1: Harmonization for Equal Nursing Competency Qualifications

This theme consisted of three categories: (a) provide training for language of host countries in origin countries; (b) develop nursing curricula and training in nursing schools in line with international standards and market demands; and (c) establish agreements of mutual benefit cooperation for nurse migration on G20 forum level.

Provide training for language of host countries in origin countries. A participant stated following statement:

“We need a program that focuses on improving the language skills of the host countries. The language of the host countries is the key for nurses to work.” (B1-1)

Develop nursing curricula and training in nursing schools in line with international standards and market demands. A participant stated:

“The skill improvement training programs should start from the college period. We can provide special classes in a particular semester to strengthen the language and specific clinical skills required to work at host countries.” (B1-2)

Establish agreements of mutual benefit cooperation for nurse migration on G20 forum level. A participant said following statement:

“Cooperation based on win-win solution and provide benefits for both parties are importance. We can adopt mechanism in the Europe Union that approval from the EU level to open vacancies seems necessary to implement cooperation.” (B2-1)

Theme 2: Reinforcement of Brain Drain Anticipation and Brain Gain Support

We extracted three categories of this main themes: (a) establish policies to support training for language at the origin countries; (b) increase salary and other reward mechanism for nurses; and (c) apply for the equal rights and obligations to migrant nurses at the host countries.

Establish policies to support training for language at the origin countries. A data from discussion stated:

“The government needs to provide a policy to support language skill improvement programs” (B1-3)

Increase salary and other reward mechanism for nurses. A following statement was extracted:

“The government needs to strengthen the payment system for nurse services in Indonesia by integrating the competence of nursing care into the individual work index system. It aimed to attract our migrant nurses so that they return to work in the country and applying their knowledge and experience from abroad.” (B2-3)

Apply for the equal rights and obligations to migrant nurses at the host countries. A participant stated:

“It is also important for the host countries to guarantee equal rights and obligations for migrant nurses similar to their nurses.” (B2-5)

Theme 3: Improvement of Regulatory and Data System for Nurse Migration

This theme consisted of two categories: (a) provide a digital-based registration system and an accessible transnational database; and (b) publish official information of list of credible agencies for nurse migration.

Provide a digital-based registration system and an accessible transnational database. A data from discussion stated:

“We need to strengthen the digital-based registration system for nurses who want to work abroad and the data collection of nurses who are currently and have been working abroad and can be accessed between collaborating countries.” (B3-1)

Publish official information of list of credible agencies for nurse migration. A statement was extracted:

“To break the chain of fraud cases to prospective migrant nurses, it is necessary to make an official list from the government of credible agencies that handle nurse migration.” (B4-3)

Theme 4: Collaboration Enhancement with Stakeholders for an Enabling Environment

Three categories were extracted: (a) optimize the role of nurse association and the nursing collages association in registration, placement, and monitoring processes; (b) enhance linkages among National Nurses Associations of G20 members for a better advocacy system on migrant nurses; and (c) reinforce the house of representatives to strengthen nurses' role in post pandemic period.

Optimize the role of national nurse association (NNA) and nursing school association (NSA) in registration, placement, and monitoring processes. Two following statements were extracted:

“Indonesian National Nurses Association (INNA) and Indonesian Nursing School Association (INSA) need to create a unit to accommodate nurses who wish to register to work abroad.” (B4-1)

“Nursing schools should involve in the monitoring-evaluation system to safeguard their graduates.” (B4-2)

Enhance linkages among National Nurses Associations (NNAs) of G20 members for a better advocacy system on migrant nurses. Two statements were extracted:

“We need to propose coordination linkages among nursing associations of all G20 countries.” (B2-4)

“Some migrant nurses got involved in legal issues due to ignorance of the legal aspects of the country. It is necessary to strengthen the legal advocacy system in cooperation among G20 countries.” (B3-3)

Reinforce the house of representatives (HoR) to strengthen nurses’ role in post pandemic period. A participant stated:

“We need the HoR of each G20 countries to strengthen regulations to optimize nurses’ role in post COVID-19 pandemic. This strategy may support brain gain design in origin countries and overcome shortages of nurses in host countries. Now is the right moment when we get high acknowledgments from societies during this pandemic.” (B2-2)

DISCUSSION

We elaborated the findings of the study into six sections of discussion to show its relevancy with the G20 health agenda on enhancement of nurse migration system and long-term solution of shortages of nurses. Those five sections are (a) importance of harmonization for equal nursing competence qualification; (b) emphasizing strategies for brain drain anticipation; (c) emphasizing a strategy for brain gain support; (d) urgency of database system improvement; (e) needs for optimizing the role of NNAs, NSAs, and the HoRs; and (f) implications.

Importance of harmonization for equal nursing competence qualification

The findings underpinned that harmonization for equal nursing competence qualification among G20 countries is necessary to enhance nurse migration system and long-term solution of shortages of nurses. Considering the limited available training facilities for nurse, the G20 countries should provide training for language of host countries in origin countries. Mastering language of host countries was important to communicate well with their patients and colleagues (Brunton & Cook, 2018; Garone and Van de Craen, 2016). G20 countries also could develop nursing curricula and training in nursing schools, that in line with global workforce standards and market demands to ensure the competitiveness of nurses upon global standards and improve patient safety and quality of care (Hardy et al., 2021; Noviyanti et al., 2018). Furthermore, the findings urged origin and host countries that the agreements could address health system gaps in both countries. Create a mechanism to track the effects of bilateral agreements, particularly those on the health system, and the importance of comprehensive approach for brain gain design on nurse migration. This point in line with the principles of the WHO Global Code of Practice on the International Recruitment of Health Personnel (2010).

Emphasizing strategies for brain drain anticipation

The findings articulated two strategies of brain drain anticipation, included establishing policies to support training for language at the origin countries and ensuring the equal rights and obligations to migrant nurses at the host countries. According to the findings, each government of G20 countries should establish policies to optimize training for language at the origin countries. This early language preparation is necessary to minimize challenges like discrimination, to build confident, and to facilitate faster career progress (Rajpoot et al, 2024). However, the origin countries have limited capacity to provide language training upon arrival (Dos Santos, 2021), so the host countries need to take part actively in providing and facilitating language and transcultural nursing training. In this term, mutual agreement between the host and the origin countries on providing language training in the origin countries needed to optimize the before arrival language training. In the other hand, the finding highlighted the necessity of equal rights and obligations to migrant nurses at the host countries. Previous studies also described strategies to anticipate brain drain, such as ensuring fair and equitable treatment and equal reward and pay for work to migrant nurses in host country (Akashi et al, 2019; ICN 2019).

Emphasizing a strategy for brain gain support

The findings emphasized the needs of better salary and other reward mechanism for migrant nurses in the origin country. Each government of the origin countries in G20 members should provide better salary and other reward mechanism for their migrant nurses so that the migrant nurses continue to work as nurses in the origin countries when they return. In brain gain design, provide nurses with better salaries, clear professional development opportunity, and improved work-life balance and conditions were some mechanisms to attract nurses emigrate to work in their origin countries (Hamid et al., 2024; Muthmainnah et al, 2018; Turale and Nantsupawat, 2021). This recommendation was also can be considered as part of long-term solution to address shortages of nurses (Marc et al, 2019; Turale and Nantsupawat, 2021).

Urgency of improvement of regulatory and data system

Create a better data base system through improving regulatory and data system for nurse migration is crucial. G20 country members should make significant investments to create a digital-based registration system and an accessible transnational database to improve data quality. Host and source countries of G20 forum should establish monitoring system for migrant nurses and the returnee to optimize protection and utilization using information and technology systems. Furthermore, G20 country members should provide official information of list of credible agencies for nurse migration to avoid predatory agencies that may conduct exploitation or unethical process (Acacio, 2009), and to ensures that qualifications and certifications of the nurses are legitimate, to ensure patient safety and high-quality care (Stievano et al., 2009). This recommendation also supports the WHO Code for the recruitment of health personnel (2010).

Needs for optimizing the role of NNAs, NSAs, and the HoRs

The findings highlighted the needs for optimizing the role of NNAs, NSAs, and the HoRs to enhance nurse migration system and long-term solution of shortages of nurses. Each government should optimize the role of national nurse NNA and NSA in registration, placement, and monitoring processes to facilitate nurses with broader the opportunities to register to work overseas, and to optimize the protection to migrant nurses. Tam et al. (2016) and Thompson (2022) indicated that involvement of NNAs and NSAs could addresses ethical recruitment, provides essential resources, and safeguards nurses against exploitation. Then, each government should enhance linkages among National Nurses Associations (NNAs) of G20 members for a better advocacy system on migrant nurses. ICN (2018) stated that linkages among NNAs across countries aids to present a more unified and powerful voice of nurses on national and international level, and sharing information to improve nursing care qualities across countries. Furthermore, each government of G20 countries could reinforce the house of representatives to strengthen nurses' role in post pandemic period. Nurses played critical roles during the COVID-19 pandemic, where they were at the front line of patient care in hospitals and in the community (Fawaz et al., 2020). Nurses involved in mass vaccinations: delivering vaccine information, increasing vaccination rates, and reducing estimated vaccine hesitancy (ICN, 2021). Recognition from the House of Representatives (HoR) is crucial to optimize nurses' role to anticipate expected pandemic.

Implications

G20 South Africa 2025 forum set Solidarity, Equality, and Sustainability as the theme of their current agenda (G20, 2025). In health sector, G20 leaders conveyed their commitment to health equity, sustainable and resilient health systems, digital transformation, and pandemic and climate change prevention, preparedness and response. Our findings; that underpinned importance of harmonization for equal nursing competency qualifications, strategies for brain drain anticipation and brain gain support, urgency of database system improvement, and the needs for collaboration enhancement with stakeholders for an enabling environment; are in line with the current G20 agenda. In addition, the ICN calls to G20 for urgent actions on the global health worker and nurse migration crisis (ICN, 2024) and WHO opinion on Nursing workforce grows with inequities threaten global health goals (WHO, 2025). Therefore, the findings of this study can be used to the current G20 leaders as reference to implement their commitment on the health agenda, particularly to create concrete strategies for enhancing nurse migration system and long-term solution of shortages of nurses.

For further activity, we suggest to identify more detail strategies to enhance role of NNAs and NSAs in enhancing registration, placement, and monitoring processes.

CONCLUSION

This study formulated four themes as policy recommendation to the G20 Forum, included harmonization for equal nursing competency qualifications, reinforcement of brain drain anticipation and brain gain support, improvement of regulatory and data system for nurse migration, and collaboration enhancement with stakeholders for an enabling environment. The formulated policy recommendation may be used as references for the G20 leaders to implement their commitment on the health agenda, particularly to create concrete strategies for enhancing nurse migration system and long-term solution of shortages of nurses. Considering the finding of this study highlighted the role of NNAs and NSAs for collaboration enhancement with stakeholders for enabling environment, we suggest a further study to identify more detail strategies to enhance NNAs and NSAs' role in enhancing registration, placement, and monitoring processes.

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CONFLICT OF INTEREST

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence of the publication of the article.

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