

Japanese undergraduate nursing students with international exchange experience anticipate a probability of providing care to foreign nationals as a nurse

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Abstract

Aim: This study was performed to examine the association between nursing students' knowledge and interest regarding foreign resident medical health challenges and experience of international exchange as part of an evaluation of global health educational programs.

Methods: An anonymous self-administered structured questionnaire survey was conducted among 78 nursing students in their 4th year of study at a university in August 2015. The questionnaire elicited responses related to knowledge and interest regarding foreign residents' medical health challenges in Japan, likelihood of caring for foreign nationals as nurses, and experience related to international exchange.

Results: Among 68 (91.9%) study participants, 23 (33.8%) responded they were aware of medical health challenges of foreign residents. There were significant differences in knowledge and interest scores regarding foreign residents' medical health challenges according to experience of international exchange (Mann-Whitney U test, $P = 0.003$). The Spearman's rank correlation coefficient between level of interest regarding foreign residents' medical health challenges in Japan, as measured using a visual analog scale (VAS), and international exchange experience score was 0.315 ($P = 0.009$).

Conclusions: The majority of nursing students understood the likelihood of caring for foreign nationals in medical health service provision, although they did not have interest in the associated issues. Nursing students that participated in international exchange tended to show greater interest in international/global issues, including foreign residents' medical health challenges.

Health Science Research 29 : 73-80, 2017

Key Words : global health, international exchange, nursing student

Received 22 July 2016

Accepted 6 October 2016

Introduction

The United Nations General Assembly adopted Sustainable Development Goals (SDGs) in 2015 as beyond the Millennium Development Goals (MDGs), and re-emphasized the importance of primary health care (PHC) to achieve broader health-related goals, i.e., SDG3, including universal health coverage¹. In addition, the definition of international health/global health has become wider, and the "One Health" concept is a leading approach to achieve SDGs².

Achieving SDGs will require not only community participation, but also the actions of health care personnel. However, the development of human resources for health care is still an essential component of achieving these goals, and health care personnel should be trained with a wider global outlook, including cultural competencies. With the exception of Japan, industrialized countries have historically accepted a number of migrants from diverse regions and countries, and cultural competencies have been included in the

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training of health care personnel³⁻⁵). Several previous studies demonstrated disadvantages of health status among migrant and ethnic minorities due to language barriers and their lower socioeconomic status⁶⁻¹⁰. Gaps and challenges in providing health care services for migrants and ethnic minorities have also been reported, especially with regard to acquiring health literacy in non-homeland settings¹¹⁻¹⁴. Culturally competent medical interpreters can facilitate higher levels of patient satisfaction regarding medical health care services^{15,16}.

According to the Japanese Ministry of Justice, however, there are about 2.15 million registered and non-registered foreign residents in Japan, representing about 1.7% of the Japanese population. Acceptance in society and medical health care provision for ethnic minorities, including foreign residents, are not sufficiently mature in Japan compared to other industrialized countries¹⁷⁻²¹. A previous study indicated that the current service and support system for foreign residents does not function appropriately in the majority of municipalities in Japan, especially those with low densities of foreign residents²². Nursing education programs in Japan are not sufficiently equipped to provide health care personnel with training in cultural competency²³.

In Japan, nursing education programs are developed according to the Ordinance for Designating Training Schools for Public Health Nurses, Midwives, and Nurses. In 2008, the ordinance was amended to integrate "cooperation as a nurse in the global community" into pre-service nursing education programs. However, teaching resources regarding global health are limited in Japan, and therefore the volume and contents of education on global health vary according to availability between nursing educational institutions, including universities and nursing training schools.

Undergraduate nursing pre-service education in the university in which this study was conducted included 30 hours of teaching related to global health, consisting of 15 hours in Japanese and 15 hours in English, as a compulsory subject. In addition, 15 hours of additional teaching related to global health were also provided as an elective subject in Japanese. This represents a greater amount of global health teaching than other Japanese nursing educational institutions, consisting of 823 institutions, including universities and nursing training schools²⁴. The contents of this global health training include not only international cooperation and technical assistance in health care in developing

countries that are taught in most nursing educational institutions, but also migrant health and foreign resident medical health care in Japan, travel medicine, and other contemporary issues related to global health, including inbound and outbound medical health. The students also have opportunities to participate in overseas study and cultural exchange programs where they act as homestay hosts for foreign students. These programs are also provided as elective subjects.

Therefore, the influences of experience of international exchange on nursing students' knowledge and interest regarding foreign resident medical health challenges were evaluated as outcomes of global health educational programs including lectures and international exchange experience in Nagasaki University, which provides a relatively high level of global health education. This study was performed to assess the gap between current global trends and pre-service nursing educational achievement in a Japanese nursing university with a relatively strong focus on global health issues.

Methods

An anonymous self-administered structured questionnaire survey was conducted among 78 nursing students in their 4th year of study at a university in August 2015. The questionnaire elicited responses related to 1) knowledge and interest regarding foreign residents' medical health challenges in Japan, 2) information sources for foreign residents' medical health challenges in Japan, 3) likelihood of caring for foreign nationals as nurses, and 4) experience related to international exchange, including overseas trips, study abroad, acting as a homestay host, foreign language learning other than that included in the university curriculum, and interaction with foreign nationals.

Responses regarding overseas trips were divided into three categories, i.e., "no," "once," and "twice or more," which were given scores of 0, 1, and 2, respectively. Responses of "no" or "yes" to questions regarding study abroad, acting as a homestay host, foreign language learning, and interaction with foreign nationals were given scores of 0 and 1, respectively. Foreign language learning did not refer only to English, and the language was not specified in the question. International exchange experience score was calculated by totaling the scores for all questions, and ranged from 0 to 6 (Box 1). Subjects were also divided into three groups according to international exchange experience score: "no experience," "one experience," and "two or more

experiences.”

The study participants were questioned regarding their awareness of foreign residents’ medical health challenges in Japan, and their sources of information in cases where they responded in the affirmative. A visual analog scale (VAS: 0 – 100 mm) was used to determine the level of interest of the participants regarding foreign residents’ medical health challenges in Japan.

The relations between level of interest regarding foreign residents’ medical health challenges in Japan and international exchange experience score were analyzed using Spearman’s rank correlation coefficient and the Mann–Whitney U test. The Cochran–Armitage

trend test, chi-square test, or Fisher’s exact test was used to analyze associations between knowledge and interest regarding foreign residents’ medical health challenges in Japan and international exchange experience among Japanese undergraduate nursing students.

This study was approved by the ethical review boards at our institution (authorization number: 16020482). The study participants were informed about the objectives of the study, both orally and in written documents, and were asked to participate voluntarily. Submission of the completed questionnaire was considered to indicate agreement to participation in the study.

Box 1. Questionnaire to evaluate nursing students’ knowledge and interest regarding foreign resident medical health challenges and experience of international exchange

1. Have you heard about foreign residents’ medical health challenges in Japan? (Yes, No)

2. If you answered “Yes” to question 1, where did you hear about foreign residents’ medical health challenges?
(Multiple choice)
1) Lecture at university 2) Seminar out of the university 3) Other (Specify: _____)

3. What is your level of interest regarding foreign residents’ medical health challenges? Please indicate your current level of interest with an × mark.

|-----|

Interest
No interest

4. Do you predict a probability of providing care to foreign nationals as a nurse? (Yes, No)

5. Please answer if you have experienced international exchange below.

5-1. Have you experienced overseas trips?
1) None 2) Once 3) Twice or more

5-2. Have you experienced studying abroad? (Yes, No)

5-3. Have you experienced acting as a homestay host? (Yes, No)

5-4. Have you had an opportunity to learn a foreign language other than that included in the university curriculum? If so, please specify the mode of learning such as English conversation school, Skype lessons with foreigners, study of TOIEC, and others.
1) Yes (Specify: _____)
2) No

5-5. If you have additional experience of interacting with foreign nationals, including international exchange meetings and events, etc., please specify below.
(_____)

International exchange experience score was calculated by totaling the scores for all questions from 5-1 to 5-5, and ranged from 0 to 6.

Answers regarding question 5-1 were divided into three categories, i.e., “no,” “once,” and “twice or more,” which were given scores of 0, 1, and 2, respectively. Responses of “no” or “yes” to questions 5-2 to 5-5 were given scores of 0 and 1, respectively. On question 5-5, a score of 1 was given when the study participants responded as having experienced one or more episode of international interaction.

Results

A total of 68 (91.9%) participants completed the questionnaire survey. The results are shown in Table 1. Only 23 (33.8%) of the study participants indicated an awareness of foreign residents' medical health challenges in Japan, and 22 (95.7%) had received this information in a lecture at the university. Fifty-three (77.9%) of the study participants responded affirmatively regarding the likelihood of providing health care to foreign nationals as nurses. The mean and standard deviation (SD) of VAS score regarding interest in foreign residents' medical health challenges was 44.0 (25.2), with a median of 44. The study participants were divided into three groups according to VAS score regarding foreign residents' medical health challenges: low interest group, ≤ 33 ($n = 25$, 36.8%), medium group, between 34 and 66 ($n = 30$, 44.1%), and high interest group, ≥ 67 ($n = 13$, 19.1%). The mean (SD) of international exchange score was 1.9 (1.4), with a median of 2. Twelve participants (17.6%) reported "no international exchange experience," 18 (26.5%) had "one experience of international exchange," and 38 (55.9%) had "two or more experiences of international exchange."

Table 1 also shows the associations between knowledge and interest regarding foreign residents' medical health challenges in Japan, the likelihood of providing health care to foreign nationals as nurses, and international exchange experience among Japanese undergraduate nursing students. Nursing students that answered affirmatively regarding the likelihood of providing health care to foreign nationals as nurses were more likely to have experience of interactions with foreign nationals (Fisher's exact test, $P = 0.051$) and a higher overall level of international exchange experience (Cochran–Armitage trend test, $P = 0.030$). Although not significant, nursing students with experience of learning foreign languages and/or interactions with foreign nationals, such as guiding foreign tourists, participating in events for foreign nationals/students, self-learning for Test of English for International Communication (TOEIC), etc., showed higher levels of interest in foreign residents' medical health challenges.

Table 2 presents factors related to interest score regarding foreign residents' medical health challenges (VAS score) and international exchange experience score. A significantly higher interest score regarding foreign residents' medical health challenges was observed in participants that had knowledge of these challenges according to experience of international

exchange than those without knowledge (Mann–Whitney U test, $P = 0.003$), but there was no significant difference in international exchange experience score depending on knowledge of foreign residents' medical health challenges (Mann–Whitney U test, $P = 0.119$).

The Spearman's rank correlation coefficient between level of interest in foreign residents' medical health challenges in Japan, as measured by VAS, and international exchange experience score was 0.309 ($P = 0.010$). The study participants that responded affirmatively to a likelihood of providing health care to foreign nationals as nurses demonstrated greater interest in foreign residents' medical health challenges (Mann–Whitney U test, $P = 0.001$) and higher international exchange experience scores (Mann–Whitney U test, $P = 0.030$).

Discussion

Only 23 (33.8%) of the study participants responded that they were aware of foreign residents' medical health challenges, although 38 of the target students for this study had attended elective lectures related to global health that specifically dealt with such challenges according to the academic registration. The level of interest in foreign residents' medical health challenges varied, with half of the study participants showing low levels of interest. Formal education in the university did not contribute sufficiently to the nursing students' knowledge and interest regarding the medical health challenges of foreign residents.

The students that are active participants in international exchange programs and interact with foreign nationals were aware of the importance of global health, including foreign residents' medical health challenges, and demonstrated high levels of interest in these challenges. The other students, however, did not show such interest, despite the inclusion of foreign residents' medical health challenges in their curriculum.

Nishito *et al.*²⁵⁾ reported that nursing students participating in international exchange programs, including overseas study trips, demonstrated interest in international/global health. In addition, more than 60% of nursing students responded affirmatively regarding the necessity of obtaining foreign language skills for working as a nurse in the future, with 90% giving "communication with foreign patients" as the reason. The nursing students that participated in international field trips that was used English for communication as part of elective subjects in the university as the setting

Table 1. Associations between knowledge and interest in foreign residents' medical health challenges in Japan, likelihood of providing care to foreign residents as nurses, and international exchange experience among Japanese undergraduate nursing students ($n = 68$)

	Knowledge of foreign residents' medical health challenges in Japan				Interest on foreign residents' medical health challenges in Japan (Visual Analog Scale: VAS)				Probability to serve foreign people as nurse					
	No ($n = 45$)		Yes ($n = 23$)		Low ($n = 25$)		Medium ($n = 30$)		High ($n = 13$)		No ($n = 15$)		Yes ($n = 53$)	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Overseas trip	13	28.9	5	21.7	8	32.0	8	26.7	2	15.4	5	33.3	13	24.5
Once	20	44.4	8	34.8	12	48.0	12	40.0	4	30.8	9	60.0	19	35.8
≥ Twice	12	26.7	10	43.5	5	20.0	10	33.3	7	53.8	1	6.7	21	39.6
Study abroad	43	95.6	22	95.7	25	100	29	96.7	11	84.6	15	100.0	50	94.3
Yes	2	4.4	1	4.3	0	0.0	1	3.3	2	15.4	0	0.0	3	5.7
Acting as a homestay host	37	82.2	18	78.3	22	88.0	26	86.7	7	53.8	11	73.3	44	83.0
Yes	8	17.8	5	21.7	3	12.0	4	13.3	6	46.2	4	26.7	9	17.0
Foreign language learning	33	73.3	12	52.2	19	76.0	20	66.7	6	46.2	13	86.7	32	60.4
Yes	12	26.7	11	47.8	6	24.0	10	33.3	7	53.8	2	13.3	21	39.6
Interaction with foreign nationals	33	73.3	15	65.2	20	80.0	22	73.3	6	46.2	14	93.3	34	64.2
Yes	12	26.7	8	34.8	5	20.0	8	26.7	7	53.8	1	6.7	19	35.8
International exchange experiences	9	20.0	3	13.0	5	20.0	6	20.0	1	7.7	4	26.7	8	15.1
($n = 12$)														
One experience	14	31.1	4	17.4	10	40.0	6	20.0	2	15.4	7	46.7	11	20.8
($n = 18$)														
≥ Two experiences	22	48.9	16	69.6	10	40.0	18	60.0	10	76.3	4	26.7	34	64.2
($n = 38$)														

Cochran–Armitage trend test (†), Chi-square test (‡), or Fisher's exact test (§).

Table 2. Factors related to interest score regarding foreign residents' medical health challenges (VAS score) and international exchange experience score

	Interest score regarding foreign residents' medical health challenges (Visual Analog Scale: VAS)			International exchange experience score		
	n	Mean ± SD	P -value	Mean ± SD	Mean ± SD	P -value
Without knowledge of foreign residents' medical health challenges	45	37.1 ± 23.4	0.003	1.7 ± 1.4		0.119
With knowledge of foreign residents' medical health challenges	23	57.4 ± 23.5		2.3 ± 1.6		
Without prediction of probability of providing care to foreign nationals as a nurse	15	24.7 ± 20.4	0.001	1.2 ± 1.1		0.030
With prediction of probability of providing care to foreign nationals as a nurse	53	49.4 ± 23.8		2.1 ± 1.5		

Mann–Whitney U test

of this study showed a high level of motivation for learning English and they felt regret regarding their poor English capacity immediately after returning from the trip. Unfortunately, the authors' observations and experience indicate that these motivations do not continue for a long period after the trip. The nursing curriculum generally has a tight schedule. Nursing students are easily drawn back to the core curriculum that is provided in Japanese and away from continuous learning of English. Mechanisms for stimulating the learning of foreign languages and participating in opportunities to interact with people from other countries should be included into routine university life for long-term maintenance of motivation regarding foreign language study and attention to globalized medical health care provision.

The International Council of Nurses (ICN) defines nursing as encompassing autonomous and collaborative care of individuals of all ages, families, groups, and communities, sick or well, and in all settings²⁶⁾. The ICN also provides the ICN Code of Ethics for Nurses, which outlines the standards inherent in nursing, i.e., respect for human rights, including cultural rights, the right to life and choice, to dignity, and to be treated with respect. Nursing care is respectful of and unrestricted by considerations of age, color, creed, culture, disability or illness, gender, sexual orientation, nationality, politics, race, or social status²⁷⁾. The participants in the present study have been educated based on these definitions and code of ethics. Even nursing students that do not have expectations and/or perspectives to care for foreign people as nurses in future, they cannot refuse to provide care to any patients/clients in their professional capacity.

Even other industrialized countries with large numbers of migrants have faced cultural conflicts, and health care professionals have adjusted their cultural sensitivity and competencies for provision of health care services²⁸⁻³⁰⁾. The exposure of Japanese nursing students to a full range of cultural diversity and globalization will increase their potential for cultural sensitivity. Opportunities to participate in international/cultural exchange programs represent means of capacity building for pre-service training of culturally competent health care professionals.

This study had several limitations. This study was conducted in only one university that taught and provided a high volume of global health and international exchange programs, and the study sample size was small. Therefore, it is not appropriate to

generalize the findings of this study to all nursing students in Japan. This was a cross-sectional study, and therefore we cannot make conclusions regarding the causal relations between interests in foreign residents' medical health challenges and having experience of international exchange. Having experience of international exchange, especially overseas trips and learning a foreign language at school, are influenced by the economic situation of the students and their families. It was possible that the correlation between having an interest in foreign residents' medical health challenges and having experience of international exchange may have been underestimated. We did not evaluate the study participants' English and other foreign language capacity or other aspects of cultural competencies, such as general communication skills, acceptance of different values, preparedness toward unpredicted conditions, etc. Therefore, we could not comprehensively assess nursing students' capability to serve people of other nationalities.

Conclusions

The majority of nursing students understood the likelihood of providing care for foreign nationals in medical health service provision, although they did not have a strong interest in this issue. Nursing students that participated in international exchange tended to show an interest in international/global issues, including foreign residents' medical health challenges. Nursing educational institutions should develop international/global issues, including foreign residents' medical health challenges, as essential knowledge and a sense of globalized medical health care provision among nursing students.

Acknowledgements

The authors are grateful to all of the study participants for their collaboration in this study.

Disclosure statement

The authors have no conflicts of interest to declare.

Author contributions

MN and JT contributed to interpretation of findings from the analysis and logically composed the manuscript. NK, KS, and YM designed the study and both collected and analyzed data. MO conceptualized and supervised the study and wrote a draft of the manuscript. MO, NK, KS, YM, MN, and JT edited and approved the manuscript.

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