INTEREST IN MEDICAL HEALTH CARE FOR FOREIGN RESIDENTS AMONG

JAPANESE NURSING STUDENTS IN AREAS OF VARYING ETHNIC DIVERSITY

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Authors' contributions

M. N. and M. O. contributed to the interpretation of findings from the analysis and logically composed the manuscript. M. K. and M. T. designed the study and both collected and analyzed data. J. T. conceptualized and supervised the study and wrote a draft of the manuscript. J. T., M. K., M. T., M. N., and M. O. edited and approved the manuscript.

ABSTRACT

Background: Exposure of nursing students to foreign residents may improve cultural understanding. Nursing students are expected to have differing rates of contact with foreign residents, depending on how many foreign residents live in their municipality where they study in. Those in areas densely populated by foreign residents are more likely to encounter foreigners, and to have favorable views of them than students in areas with sparser foreign-resident populations. As of 2015, 2.23 million foreign residents lived in Japan, equaling 1.76% of the population; however, Japan still has fewer foreign-born residents compared to other countries. Therefore, interest in Medical Health Care for Foreign Residents (MHCFR) may be greater in students in ethnically diverse areas. While nursing students may have different levels of recognition of foreign nationals as potential clients and interest in MHCFR, no research validates this assumption.

Objectives: This study aimed to clarify the association between proximity to foreign nationals and interest in MHCFR among Japanese nursing students. The secondary purpose was to describe knowledge and interest regarding MHCFR among students. To elucidate these topics, education and development of human resources in MHCFR should be considered.

Research design and method: The study design was cross-sectional. A self-administered questionnaire survey was conducted with 143 nursing students.

Results: Most students understood the likelihood of providing nursing care to foreigners; however, knowledge and interest were low, regardless of whether lectures on MHCFR were provided. Knowledge of MHCFR, recognition of providing care to foreign nationals, and level of contact experiences with foreign nationals were significantly associated with students' level of interest in MHCFR.

Discussion: Nursing students in ethnically diverse areas tend to show greater interest in MHCFR in Japan. To foster global health perspectives, including MHCFR, in nursing students studying in ethnically diverse areas, contact experiences with foreigners and acceptance of international students by universities might be effective.

Keywords: Foreign residents in Japan; Global health; Immigrants; Medical health care for foreign residents; Nursing students; Nursing Education; Learning environments.

INTRODUCTION

At the end of 2015, there were 2.23 million registered and non-registered

foreign residents in Japan, accounting for 1.76% of the country's total population. This

value that has almost doubled in the last 20 years (Ministry of Justice, 2016). However,

Japan still has fewer foreign-born residents compared to other countries, such as

Australia (28.5% in 2016), Canada (20.6% in 2011), Sweden (14.4% in 2012), and the

United States (12.9% in 2010) (Australian Bureau of Statistics, 2017; Ministry of

Health, 2007; Organization for Economic Cooperation and Development, 2016;

Statistics Canada, 2016). Among industrialized countries, Japan remains one of the

most highly homogeneous cultures (Chris, 2007). Compared to other countries, societal

acceptance is low and systems of medical healthcare services are not well designed for

foreign residents in Japan. Nonetheless, medical stay visas were introduced in January

2011 (Ministry of Foreign Affairs, 2010), and the number of foreign nationals visiting

Japan exceeded 24 million at the end of 2016 (Japan National Tourism Organization,

2017).

As Japan becomes increasingly heterogeneous, opportunities to provide nursing

care to foreign nationals and foreign residents will increase for nurses. However, nurses

working in Japan have struggled to adapt to these societal changes, citing the language

barrier and cultural differences when providing medical care to foreign residents

(Hasegawa et al., 2002). These difficulties are also reported by foreign residents when

receiving medical care services (Hashimoto et al., 2011; Igarashi et al., 2013; Tashiro et

al., 2014).

According to the Ministry of Health, Labour and Welfare's "study group on the

improvement of nursing basic education," when working internationally, nurses should

hold values arising from a considered, broad, and international perspective, and should

foster their ability to respond to globalization and informatization. These principles

were incorporated into the teaching guidelines for nurse education in 2009 (Ministry of

Health, 2007). As of April 1, 2015, there were 248 nursing universities in Japan (Japan

Association of Nursing Programs in Universities, 2015). While all basic nursing

education programs include the study of international/global health, the contents of

these classes and the credits students receive for them vary between institutions

(Nakagoshi et al., 2014).

A positive perception and greater awareness of global health issues are

influential factors in determining whether nursing students engage with foreign

residents in their professional careers. However, in a study addressing global health

perspectives, most nursing students (91.5%) felt that it referred to "international

cooperation in developing countries"; no students perceived it to mean "providing

medical health and nursing care for foreign residents in Japan" (Yoshimizu et al., 2011).

According to one study, in a question that allowed multiple answers asking about the

reason for studying abroad, nursing students answered the following: developing better

language skills (82.7%), nursing training (38.5%), and international cooperation

activities (34.6%) (Nishito et al., 2014). However, a few students (11.5%) indicated that

international study was helping them provide Medical Health Care for Foreign

Residents (MHCFR) when they returned to Japan (Nishito et al., 2014). It is thought,

therefore, that student interest in MHCFR is low in Japan.

Nursing students are expected to have differing rates of contact with foreign

residents, depending on the number of foreign residents living in the municipality they

study in. Nursing students studying in areas more densely populated by foreign

residents are more likely to encounter foreigners. They are thus likely to have a more

favorable view of foreigners residing in Japan than students studying in areas with a

sparser foreign resident population. Therefore, it is suggested that students studying in

more diverse areas will have greater interest in MHCFR. While there are thought to be

differences in the levels of recognition of foreign nationals as potential clients and

interest in MHCFR between these groups of nursing students, currently no research

exists to validate this assumption.

Consequently, the primary purpose of this study was to clarify the association

between the potential to encounter foreign nationals and interest in MHCFR among

nursing students studying in municipalities with different population densities of foreign

residents. In addition, the secondary purpose was to describe current knowledge and

interest regarding MHCFR among undergraduate nursing students, and the level of

recognition they have about the probability of providing care to foreign nationals in the

future. To elucidate these relationships and current situations, it is important to consider

education and the development of human resources in MHCFR in Japan.

METHOD

Procedure

The study design was cross-sectional. In terms of the selection process for the

inclusion of participating universities, we used three lists to select three universities.

The three lists contained the following: (1) information on the location of universities

included in the Japan Association of Nursing Programs in Universities' list of member

universities, as of April 1, 2015; (2) census population statistics of the municipalities

where the universities were located (Ministry of Internal Affairs and Communications, 2015); and (3) the number of registered foreign residents in all municipalities in Japan (Ministry of Justice, 2015). We then merged these lists to calculate the ratio of foreign residents to Japanese nationals (the number of foreign residents per population for each municipality).

Twelve universities were excluded because the statistical information regarding the number of foreign residents in their municipalities was missing, due to unknown reasons. After arranging the merged list in ascending order following the ratio of foreign residents to Japanese nationals, we selected three universities: (A) the university in the municipality with the lowest ratio, (B) the university in the municipality with the median ratio, and (C) the university in the municipality with the highest ratio.

After selecting the three nursing universities, we requested that staff from each university distribute study materials to participants, including consent forms and self-administered questionnaires. Participants were informed about the nature of the study both orally and through written documents; then, self-administered questionnaires (including response fields for age and sex) were distributed to 212 fourth-year nursing students by university staff, from October to November 2016.

Returning completed questionnaires was regarded as agreement to participate in this study voluntarily. We excluded participants who were aged more than 30 years as well as foreign residents to remove selection bias. We excluded students older than 30 years of age because they accounted for less than 1% (if rounded off) of those who entered nursing university in 2016 (Ministry of Health, 2016).

Measures

Interest in MHCFR. The dependent variable in this study was an interest in MHCFR among Japanese undergraduate nursing students. We used a visual analog scale (VAS: 0–100 mm) to measure the level of interest in MHCFR. The VAS was presented as a single line of 100 mm with scale anchors at either end (0 mm = "no interest" to 100 mm = "extremely interested"). VAS is a common response option in medical health studies, often being used to measure the severity of pain, for example. The authors found no article that evaluated the level of interest by VAS. However, according to a study comparing the results of VAS and Likert items, regarding psychosocial measurements, a single VAS question can replace a single Likert item and also be comparable (Hasson and Arnetz, 2005).

<u>Knowledge of MHCFR and experience with foreign residents</u>. Knowledge of

MHCFR in Japan was measured with the item, "Have you heard about MHCFR in

Japan?" ("yes" or "no"). Potentially having to provide care to foreign residents in the

future was measured with the item, "Do you think that you will provide care to foreign

residents in the future?" ("yes" or "no").

The variables of contact experiences with foreign nationals were measured with

nine questions previously used in the Japanese General Social Surveys (JGSS) (JGSS

Research Center, 2003). Contact experiences with foreign nationals were considered as

being either the result of active or passive exposure. Passive experience was gauged

with the items: Q1. I share/shared a workplace, Q2. I study/studied with them at school,

and Q5. I participate/participated with them in other groups or community activities.

Active experience was gauged with the items: Q3. I am/was friends with them, Q4. I

and/or a member of my family is married to a foreigner who lives/lived in Japan, and

Q6. We participate/participated together in group activities for international exchange.

In addition, general contact experience was measured by three items: Q7. I am/was on

greeting terms with a foreigner; Q8. I do not know any foreigners and have never had

any contact with a foreigner; and Q9. Do you often see foreigners in the area you live?

Questions 1–8 were binary ("yes" or "no"), and Q9 was answered on a 4-point Likert

scale ("not at all" to "frequently").

Participants were categorized as having experience in greeting foreign

nationals if they answered "yes" to Q7. The response "I have only encountered foreign

nationals," indicated that participants responded "no" to Q1–7 and "yes" to Q8. Positive

responses ("frequently" or "sometimes") to Q9 were categorized as "encounters."

Participants who responded "no" to Q1–7, "yes" to Q8, and negatively ("rarely" or "not

at all") to Q9, indicating that they had no contact with foreign nationals, were classified

as "none" for the level of contact experience with the foreign nationals' variable.

Statistical analysis

Based on the collected questionnaires, we created a dataset using Microsoft

Excel (Microsoft Office 2016, Microsoft Corporation, Redmond, WA). For univariate

analysis, Pearson's correlation coefficients, t-tests, and one-way analyses of variance

were performed for quantitative variables. Moreover, more detailed relationships were

elucidated using multiplex comparisons with Bonferroni corrections. Chi-square tests

were performed for qualitative variables. A multiple regression analysis was also

performed to control for potential confounding factors, using the forced entry method if

the independent variables were significant in the univariate analysis. University location

and level of contact experience with foreign nationals were treated as dummy variables.

For statistical analysis, one-tailed t-tests were conducted with a significance level of 5%

using Stata SE (Version 14.2: Stata Corp, College Station, TX).

Ethical considerations

This research was approved by the Ethics Committee of Nagasaki University

Graduate School of Biomedical Sciences (September 6, 2016; permission number:

16081825).

RESULTS

Participants' characteristics

Of the 212 Japanese undergraduate nursing students, 146 (68.9%) completed

the self-administered questionnaire survey. Surveys with missing data for age,

knowledge of MHCFR, and interest in MHCFR were excluded from the final dataset.

After discarding three questionnaires, 143 were used in the final analysis (effective

response rate = 67.4%).

The participants' characteristics for each university are shown in Table 1. The

ratio of foreign residents in the municipality of each university was as follows: 0.2 for

University A (2 foreign residents per 1,000 people), 1.4 for University B (14 foreign

residents per 1,000 people), and 11.9 for University C (119 foreign residents per 1,000

people). The age range was 21–26 years. Students at University C had a significantly

higher level of contact experience with foreign nationals ($X2(8, N = 143) = 24.76$,

$p = .002$). The average VAS score for level of interest in MHCFR in Japan was 50.5

($SD = 0.8$) mm, indicating indifference. In addition, although not significant, there was

a tendency for students studying in areas with more foreign residents to have higher

levels of interest in MHCFR ($F(2, 140) = .40, p = .670$).

Factors influencing level of MHCFR interest

Table 2 shows the relationship between level of interest in MHCFR and

potential factors among undergraduate nursing students. The significant factors in the

univariate analysis were sex ($t(141) = 2.17, p = .016$), knowledge of MHCFR ($t(141) =

2.55, p = .005$), recognizing foreign residents as potential future clients ($t(141) = 2.96$,

$p = .001$), and the level of contact experience with foreign nationals ($p = .001$). There

was a slight positive correlation between the level of interest in MHCFR and the age of

students ($r = .17, p = .039$). The average VAS values for MHCFR interest were lowest

in participants with no contact experience, followed by those who had encountered, greeting experience, passive experience, and active experience. Multiple comparison analysis using Bonferroni corrections revealed that the average VAS score of actively exposed participants was significantly higher ($M = 58.48$, $SD = 19.73$) than that of those who had had no contact group with foreign residents ($M = 36.55$, $SD = 24.79$), $F(4, 138) = 4.58$, $p = .001$.

The results of the multiple regression analysis are shown in Table 3. To evaluate the effects of contact experience on MHCFR interest, we developed multiple regression models with level of interest in MHCFR as the dependent variable and the significant factors found in the univariate analysis as independent variables. We used significant factors from the univariate analysis as independent variables (Model 1) and then forcibly added the university location to assess the effect of the university as an additional explanatory factor (Model 2).

As shown in Table 3 (Model 1), the following factors were significant in predicting participant interest in MHCFR: knowledge of MHCFR, recognizing foreign residents as potential patients, passive exposure, and active exposure, $F(8, 134) = 4.32$, $p = .0001$. As shown in Table 3 (Model 2), the following factors were significant in predicting participant interest in MHCFR: knowledge of MHCFR, recognizing foreign

residents as potential patients, passive exposure, and active exposure, $F(10, 132) = 3.51$,

$p = .0004$. On the other hand, there were no significant associations between age, sex,

and university and MHCFR interest.

DISCUSSION

In this study, the factors associated with interest in MHCFR among

undergraduate nursing students studying at three nursing universities in municipalities

with different population ratios of foreign residents were knowledge of MHCFR in

Japan, recognition of providing care to foreign residents, and contact experiences with

foreign nationals.

Only 34.3% of nursing students responded that they had heard about MHCFR

in Japan and, in general, participants appeared disinterested in MHCFR. These results

were similar to those of a previous study conducted by Nishihara et al. (2017), who

reported that knowledge and interest regarding MHCFR remained low in nursing

students who were provided with MHCFR lectures. Nishihara and colleagues concluded

that formal university education did not contribute sufficiently to the nursing students'

knowledge and interest regarding the medical health challenges of foreign residents.

These findings suggest that it is necessary to devise impressive and memorable lectures

on MHCFR, including novel content such as interviews with foreign residents about the

current medical health challenges they face in Japan.

Many of the students studying in the more diverse municipality reported having

a higher level of contact experience with foreigners. In addition, there was a significant

difference between those with contact experiences and those without, in terms of their

average interest in MHCFR, suggesting that greater contact experiences led to greater

interest in treating foreign patients. The mere-exposure effect is a phenomenon in which

mere repeated exposure of the individual to a stimulus enhances their attitude toward it

(Zajonc, 1968). It can be speculated that students with a higher level of contact

experiences have more positive feelings toward foreign residents compared to nursing

students who have lower levels of contact experiences. Based on the results of this

study, it can be suggested that interest in MHCFR could be high. On the other hand, in a

paper discussing the effectiveness of experiential learning, it has been reported that

experiences changed the learning attitude of students positively (Pugsley et al., 2003).

Fowler conducted a conceptual analysis of experiential learning and showed that

experience-based reflections make overall learning meaningful (2008). Although the

present study was not planned as experiential learning, it was discovered that exposure

to foreigners was an experience in experiential learning, and that those with contact

experiences showed an increased interest in MHCFR by conducting reflections through lectures. In the future, it is necessary to design an intervention study involving planned exposure to foreigners to clarify the causal relationship.

Nishito et al. (2014) reported that more than 60% of nursing students who participated in international exchange programs (including overseas training) felt that foreign language skills would be required in their position as nurses in the future (Nishito et al., 2014). However, it has been reported that a high motivation to study English by nursing students immediately after the end of overseas training does not persist. Previous research has suggested that the need for a mechanism to stimulate foreign language learning and the opportunity to exchange with foreigners should be included in the daily routine of university life to maintain long-term motivation for learning a foreign language and to attend to medical healthcare provisions for foreign residents (Nishihara et al., 2017). To foster nursing professionals with global health perspectives, including MHCFR, it might be effective for nursing students to study in more ethnically diverse areas, giving them more contact experiences with foreigners, and for universities to actively accept international students. In addition, it is assumed that there are few opportunities in society for nursing students to be influenced by foreign residents, especially in regions other than Japan where immigrant and foreign

resident populations are small. Therefore, cultural sensitivity training for the nursing

profession is important in these areas.

Limitations

The results of this study may be affected by various limitations such as

previous living conditions, past residential areas, and the possibility that participants in

this study lived in different areas from where they studied. These factors and their

potential effects were not considered in this study. The amount and quality of education

regarding international/global health and nursing—including MHCFR—offered to

students, and the timing of their lectures, were different in each university involved in

this study, which may have affected our results.

The data in this study may also be somewhat biased, as the data collection rate

of University C was lower than that of the other participating universities (University A

= 88.9%, B = 94.9%, C = 30.0%). Moreover, it is possible that only students who were

already interested in MHCFR responded to the questionnaire. It is necessary to perform

a comprehensive study based on the results of this research to address these limitations.

In this research, we examined the difference between the level of interest

regarding MHCFR in Japan and the level of contact experience among nursing students

studying in areas of varying ethnic diversity. However, it has not been possible to

consider whether students who were exposed to foreigners find a more nuanced cultural

care, or whether students who did not receive exposure to foreigners perceive no need

for cultural specific care. Data regarding this issue were not collected in this study but

should be the focus of future research.

<u>CONCLUSIONS</u>

We found that undergraduate nursing students in more ethnically diverse

environments showed greater interest in MHCFR than students in less diverse areas.

In other words, undergraduate nursing students who have experienced contact with

foreigners, whether passive or active (including students who are aware that they have

a chance to encounter foreigners), are more interested in MHCFR. Knowledge of

MHCFR and recognizing foreign residents as potential clients were also associated with

their interest level in MHCFR.

Among the participants, only around one third had prior knowledge of

MHCFR, and the average level of interest in MHCFR suggested disinterest. Regardless

of whether lectures on MHCFR were provided at the universities involved in this study,

knowledge and interest remained low. Conversely, regardless of the number of foreign

residents living around the university, it became apparent that most nursing students

recognized the probability of providing care to foreign residents in Japan as a nurse.

Disclosure statement

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Table 1

Participants' Characteristics (n=143)

Variables	University A (n=48)		University B (n=69)		University C (n=26)		Total (n=143)		p value
	n	(%)	*n*	(%)	*n*	(%)	*n*	(%)	
Age (years)									
mean (SD)	21.8	0.9	21.9	0.8	21.7	0.9	21.8	0.8	.492[a]
Sex									
Female	42	(87.5)	64	(92.8)	24	(92.3)	130	(90.9)	
Male	6	(12.5)	5	(7.2)	2	(7.7)	13	(9.1)	.600[b]
Knowledge of MHCFR in Japan									
No	33	(68.8)	46	(66.7)	15	(57.7)	94	(65.7)	
Yes	15	(31.2)	23	(33.3)	11	(42.3)	49	(34.3)	.617[b]
Recognition of providing care to foreign residents									
No	5	(10.4)	6	(8.7)	1	(3.9)	12	(8.4)	
Yes	43	(89.6)	63	(91.3)	25	(96.1)	131	(91.6)	.618[b]
Level of contact experience with foreign nationals									
None	21	(43.8)	8	(11.6)	2	(7.7)	31	(21.7)	
Encounter	3	(6.3)	3	(4.4)	1	(3.9)	7	(4.9)	
Greeting	8	(16.7)	11	(15.9)	4	(15.4)	23	(16.1)	
Passive exposure	3	(6.3)	15	(21.7)	6	(23.1)	24	(16.8)	
Active exposure	13	(27.1)	32	(46.4)	13	(50.0)	58	(40.6)	.002[b]
Level of interest in MHCFR in Japan									
Mean (SD), VAS mm	48.4	22.4	50.8	21.7	53.7	33.3	50.5	24.3	.670[a]

Note: [a]ANOVA; [b]Chi-square test; MHCFR: medical health care for foreign residents; VAS: visual analog scale.

Table 2

Factors Influencing the Level of Interest in MHCFR among Participants (N = 143)

Variables	n	Level of interest (VAS: mm)		p value
		mean	*SD*	
Sex				
Male	13	36.8	8.8	
Female	130	51.9	2.0	.016[a]
Knowledge of MHCFR in Japan				
No	94	46.9	2.5	
Yes	49	57.6	3.3	.005[a]
Recognition of providing care to foreign residents				
No	12	31.2	5.7	
Yes	131	52.3	2.0	.001[a]
Level of contact experience with foreign nationals				
None	31	36.5	24.8	
Encounter	7	48.9	27.7	
Greeting	23	48.9	26.1	
Passive exposure	24	51.4	24.4	
Active exposure	58	58.5	19.7	.001[b]

Note: [a]*t*-test; [b]ANOVA; MHCFR, medical health care for foreign residents; VAS, visual analog scale.

Table 3

Predictive Factors Associated with the Level of Interest in MHCFR Using a Multiple Regression Analysis (N = 143)

Variables	Model 1				Model 2			
	Coefficient	95% CI		*p* value [a]	Coefficient	95% CI		*p* value [a]
Age	3.745	.760	8.251	.103	3.696	-.862	8.25	.111
Sex	-3.338	-17.898	11.221	.651	-3.677	-18.329	10.974	.620
Knowledge of MHCFR in Japan	8.337	.322	16.352	.042	8.262	.186	16.338	.045
Recognition of providing care to foreign residents	18.089	3.619	32.560	.015	17.974	3.413	32.536	.016
Level of contact experience with foreign nationals								
Encounter	7.969	-10.794	26.732	.402	8.917	-10.053	27.887	.354
Greeting	9.702	-2.805	22.210	.127	11.030	-1.889	23.950	.094
Passive exposure	12.870	.796	24.944	.037	14.970	1.915	28.025	.025
Active exposure	16.887	6.650	27.124	.001	18.604	7.570	29.638	.001
University								
University B					-4.23	-13.258	4.798	.356
University C					-2.93	-14.499	8.637	.617
(constant)	-61.240				-58.744			
R^2	0.204				0.210			
Adjusted R^2	0.157				0.150			

Note: [a]Multiple regression analysis; MHCFR, medical health care for foreign residents; opportunity to contact foreign nationals and university was treated as dummy variables.