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Study Abroad Experience Is Related to Japanese Doctors' Behavior to See Foreign Patients

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ABSTRACT

Globalization in Japan involves increases in the number of foreign residents. While there are some English-speaking Japanese doctors that are willing to see foreign patients, many are reluctant to do so. In this study, we attempted to clarify the factors that encourage Japanese doctors to see foreign patients. We conducted a questionnaire survey among medical doctors in Kobe City, Japan. The questionnaire was distributed to 172 doctors, and we received 139 responses. Statistical analysis showed a significant correlation between the frequency of seeing foreign patients and having the experience of studying abroad ($p<0.05$), confirming our hypothesis. There was also a significant correlation between having the experience of studying abroad and the doctors' self-evaluations of their English ability ($p<0.05$). There was no significant correlation found, however, between the frequency of seeing foreign patients and that of reading English research articles. These data suggested that the experience of living abroad rather than the exposure to English research articles was more highly correlated with seeing greater numbers of foreign patients. In conclusion, greater exposure to colloquial English was one of the determinants of the doctors' greater willingness to see foreign patients. In the Japanese medical education curriculum, therefore, it would be necessary to offer alternatives to studying abroad for those students who do not have such opportunities.

INTRODUCTION

A surge in the number of foreign residents is one of the phenomena symbolizing Japan's current accelerated globalization. In 2010, the number of foreign residents was 2,134,151, representing 1.66% of the total population of Japan (10). These residents were born and raised overseas, and then came to Japan and stayed for an extended period for various purposes such as employment, study, or cohabitation (10). Many such residents do not speak Japanese and thus experience many difficulties in their daily lives, including difficulties related to meeting and consulting with Japanese medical doctors (7). Japan is still a monolingual society in which only Japanese is used as a daily and official language (4).

As the population of foreign residents increases, the need for medical doctors who can communicate in English with foreign patients has grown (6, 8, 11, 13). However, many

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doctors in Japan are reluctant to see foreign patients. Some foreign embassies note on their websites that English-speaking doctors who see foreign patients are not widely available in Japan (1). As pointed out by some anecdotal studies, the reluctance of Japanese doctors to see foreign patients may be partly attributed to the language barrier (6, 8).

Although many Japanese medical doctors are reluctant to see non-Japanese-speaking foreign patients, some are willing to do so. They usually use English as the primary language in their medical examinations of such patients because it is the most common language of communication between the doctors and patients from diverse language backgrounds.

Thus it should be worthwhile to investigate what aspects, if any, of Japanese medical education contribute to this difference in doctor behavior towards foreign patients. For example, experience of study abroad would be correlated with higher rates of seeing foreign patients. To date, however, no studies have analyzed the factors involved in a Japanese doctor's decision to see foreign patients. We therefore conducted a questionnaire survey among medical doctors in Kobe City, Japan, to clarify what factors might help reduce any psychological barriers felt by the doctors and encourage them to see more foreign patients.

MATERIALS AND METHODS

Participants

We distributed the questionnaires to 172 doctors working at Kobe University Hospital, Kobe, Japan, in March 2000. With a population of 1.5 million, Kobe is Japan's fifth-largest city. It is part of an international metropolitan area that includes Osaka and Kyoto, and foreign residents occupy about 2.5% of the population (9). Kobe is one of the cities representing the globalizing Japan. According to our observation, foreign patients would choose non-private institutions such as university-affiliated, prefectural, municipal and other public organizations. Thus, we considered that Kobe University Hospital was the desirable field for the study. Of the 172 doctors, 139 returned the completed questionnaire. All of the doctors who participated in our study were born and raised in Japan and spoke Japanese as their first language.

Questionnaire

The aim of the questionnaire was to examine the relationship between the doctors' use of English and their attitudes toward foreign patients. The questionnaire included questions about the following aspects of their medical practice: (i) how often they saw foreign patients, and what language they used when seeing the foreign patients, (ii) whether they had experience studying abroad, (iii) how often they read English research articles, and (iv) how they evaluated their own English ability. For those who had studied abroad, the questionnaire also asked about the country and duration of study abroad. As for the self-evaluations of English ability, the participants were asked to rate their ability in using English on a nine-point scale, with a score of 1 indicating no ability to speak, and a score of 9 indicating the ability to speak freely. See Appendix for the actual questionnaire items.

Statistics

The data were analyzed using an add-in statistical analysis software Statcel® (OMS Ltd, Tokyo, Japan) for Microsoft Excel (Microsoft, Seattle, WA). A chi-square test and Fisher's exact test were performed to determine the associations among the factors affecting the doctors' behavior: (i) frequency of seeing foreign patients (Often: at least once per month; Seldom/Never: less than once per month), (ii) experience of studying abroad, (iii) frequency of reading English articles (Often: at least once per week; Seldom/Never: less than once per week), and (iv) self-evaluation score of English language ability (High: 5-9; Low: 1-4). A p-value of <0.05 was considered statistically significant.

RESULTS

We analyzed the replies from the 139 completed and returned responses (response rate 81%). The characteristics of these 139 doctors are summarized in Table I. The age distribution was as follows: 46 were in their 30s; 77 in their 40s; 13 in their 50s; and 3 in their 60s. They were 132 men and 7 women. A total of 86 (61.9%) doctors answered that they had studied abroad, and the majority of those (n=72, 83.7%) studied in the United States (Table I); this result may reflect the fact that Japanese medical education was heavily influenced by American medicine following World War II (2, 5, 12). The duration of study abroad ranged from 3 months to 4 years, with an average of 2.0 years. We focused on English language ability because the vast majority of Japanese doctors use English when seeing foreign patients who do not speak Japanese (Table I).

We examined whether having study abroad experience was related to the doctors' frequency of seeing foreign patients. We had hypothesized that having study abroad experience would be correlated with higher rates of seeing foreign patients. As expected, we observed a significant difference in the frequency of seeing foreign patients between doctors with and without study abroad experience (chi-square test: df=1, $\chi 2=4.104$, $p<0.01$) (Table II). Among the doctors who had studied abroad (n=86), 30 (35%) saw foreign patients at least once a month, whereas only 10 out of the 53 (18%) doctors who had never studied abroad did so (odds ratio: 2.30, 95% CI: 1.02–5.22). The doctors with study abroad experience saw foreign patients more frequently than those without study abroad experience.

Table I. Demographic characteristics of the doctors

Age				Study abroad Destination		
	20s	2	1.4%	America	72	83.7%
	30s	44	31.7%	Germany	6	7.0%
	40s	77	55.4%	Britain	3	3.5%
	50s	13	9.4%	Others	5	5.8%
Sex				Specialty		
	Men	132	95%	Internal medicine	29	20.9%
	Women	7	5%	Surgery	14	10.1%
				Orthopedics	10	7.2%
Seeing foreign patients				Psychiatry	10	7.2%
	Yes	134	96.4%	Anesthesiology	9	6.5%
	No	5	3.6%	Otorhinolaryngology	8	5.8%
				Obstetrics and gynecology	8	5.8%
Language for seeing the foreign patients				Urology	8	5.8%
	English	107	79.9%	Neurosurgery	7	5.0%
	Non-English	27	20.1%	Ophthalmology	7	5.0%
				Dermatology	7	5.0%
Study abroad				Pediatrics	6	4.3%
	Yes	86	61.9%	Radiology	6	4.3%
	No	53	38.1%	Emergency	4	2.9%
				Dental and Oral surgery	4	2.9%
Duration of study abroad				Plastic surgery	2	1.4%
	mean		1.98 yrs			
	range		3 mos - 4 yrs			

Table II. Study abroad and seeing foreign patients

Study abroad	Seeing foreign patients		Total
	Often	Seldom/Never	
Yes	30	56	86
No	10	43	53
Total	40	99	139

Chi-square test: $p<0.05$, Often: seeing foreign patients at least once per month, Seldom/ Never: seeing foreign patients less than once per month.

Table III. Self-evaluation score of English ability and seeing foreign patients

Score	Seeing foreign patients		Total
	Often	Seldom/Never	
High	36	58	94
Low	4	36	40
Total	40	94	134

Fisher's exact test: $p<0.001$, High: score of 5-9, Low: score of 1-4, Often: seeing foreign patients at least once per month, Seldom/Never: seeing foreign patients less than once per month.

Table IV. Study abroad and Self-evaluation score of English ability

Study abroad	Score		Total
	High	Low	
Yes	74	11	85
No	21	32	53
Total	95	43	138

Chi-square test: $p<0.001$, High: score of 5-9, Low: score of 1-4.

Table V. Reading research articles and seeing foreign patients

Reading >1/week	Seeing foreign patients		Total
	Often	Seldom/Never	
Yes	36	74	110
No	4	21	25
Total	40	95	135

Fisher's exact test: $p=0.1444$, Often: seeing foreign patients at least once per month, Seldom/Never: seeing foreign patients less than once per month.

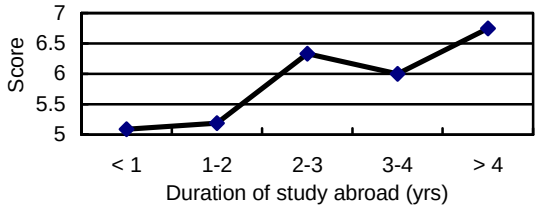

Fig.1. Self-evaluation score of English ability according to duration of study abroad

The average scores gradually increased as the duration of study abroad lengthened.

As for self-evaluations of English ability, the frequency of seeing foreign patients was correlated with the doctors' self-evaluations of English ability (Fisher's exact test: $p<0.001$) (Table III). Among the doctors who gave themselves a score of 5 or higher (n=94), 36 (38%) saw foreign patients at least once a month, whereas only 4 out of 40 (10%) of the doctors who gave themselves a score of 4 or less did so (odds ratio: 5.58, 95% CI: 1.83–17.0). Thus, doctors with higher self-evaluations of their English ability saw foreign patients more frequently than those with lower self-evaluation scores.

We also examined whether there was any relation between having study abroad experience and self-evaluation of English ability. The doctors who had studied abroad rated their English ability as being significantly higher than those who had not studied abroad (chi-square test: df=1, $\chi 2=34.25$, $p<0.001$) (Table IV).

Although there was no statistically significant correlation between the self-evaluation scores of English ability and length of stay abroad, the average scores gradually increased as the duration of study abroad lengthened (Figure 1).

Finally, we examined the possibility that the frequency of reading English research articles was related to the doctors' frequency of seeing foreign patients. According to our analysis, there was no significant correlation between these two variables (Fisher's exact test: $p=0.144$) (Table V). Among the doctors who regularly read English research articles (n=110),

32% saw foreign patients at least once a month, whereas only 16% of the doctors who did not have such reading habits did so (odds ratio: 2.5, 95% CI: 0.82–7.99).

DISCUSSION

The results of the current study indicate that one of the factors related to Japanese medical doctors seeing more foreign patients is having study abroad experience. The doctors in our study who had studied abroad saw foreign patients more frequently than those who had not studied abroad. Having study abroad experience was also found to be related to the doctors' self-evaluation of English ability. The doctors who had studied abroad rated themselves as having greater English ability than those who had not. Naturally enough, the doctors who rated their English ability higher saw foreign patients more frequently than those who rated their ability lower.

Generally speaking, the Japanese have few opportunities to communicate in English in Japan. They communicate with each other using Japanese and typically have very few opportunities to encounter foreigners, especially in rural areas. Thus, medical doctors have very few opportunities to speak English in Japan because most of their patients as well as their medical staff are Japanese. With such few opportunities to use English in their daily lives, Japanese doctors have not had the chance to adequately cultivate their English skills, especially for use on the job. In this respect, the psychological stress caused by linguistic barriers may prevent some doctors from seeing more foreign patients. Presumably, the doctors may be afraid that linguistic barriers can have deleterious effects on the diagnosis and treatments of foreign patients (3, 13).

When Japanese doctors study abroad, they are forced to communicate with other lab members or staff using English. In our study, although there was no statistically significant correlation found between the duration of study abroad and self-evaluation English ability levels, the mean English ability score slightly increased as the duration of stay lengthened. We have previously reported that as Japanese-English bilinguals reside in the United States longer and use English more, not only does the ease of performing arithmetic operations in English increase, but also their dominant language may change (15). These findings suggest that longer durations of study abroad in English-speaking countries and the frequent use of English would further enable Japanese doctors to think in English and become more confident in speaking English.

In our study, greater levels of exposure to English research articles and other written academic materials alone was not correlated with the doctors' frequencies of seeing foreign patients. The results suggest that exposure to English-speaking environments is required if Japan's medical school curriculum is to produce medical doctors who can play a productive and effective role in today's increasingly globalized Japan.

However, in most Japanese medical schools, medical subjects including the basic biological sciences and clinical medicine have traditionally been taught in Japanese, while medical English classes, if offered, have not typically included training in English listening or conversation. Notably, the majority of the doctors in our study (in particular, those aged between 40 and 60) did not have any opportunities for aural exposure to authentic English when they studied English in high school (14, 16, 17). For such doctors, studying abroad was usually the only way they could become exposed to colloquial English; thus, only those doctors who had the opportunity to study abroad could become sufficiently proficient in English to communicate with foreign patients.

Today in Japan, even without going abroad, it is possible to aurally experience native-level English through various high-tech educational devices, including CDs, DVDs,

television, radio, and the Internet. Ensuring adequate access to a wide range of authentic colloquial English materials will be an essential step in educating Japan's medical doctors so that they can effectively see foreign, non-Japanese-speaking patients. Even though the intensive situation the doctors would experience during the stay in foreign countries cannot be reproduced in classrooms, the high-tech devices would be of some help for the doctors.

In conclusion, we have shown that greater exposure to colloquial English was one of the determinants of the doctors' greater willingness to see foreign patients. To produce doctors who are better prepared to see foreign patients in Japan, it would be necessary to offer domestic alternatives to studying abroad that would be accessible to more Japanese doctors or medical students who do not have such opportunities.

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APPENDIX: Questionnaire

I. Demographic characteristics of the doctors

1. What is your age group? 1) 20s 2) 30s 3) 40s 4) 50s 5) 60s
2. What is your gender? 3. What is your specialty?

II. Frequency of seeing foreign patients

1. How often do you see foreign patients?
   1) at least once/month 2) less than once/month
2. What language did you use when seeing the foreign patients?
   1) English 2) non-English

III. Experience of study abroad

1. Have you studied abroad? 1) Yes 2) No
2. In which country did you study?
3. How long did you stay?

IV. Frequency of reading English research articles

1. How often do you read English research articles?
   1) at least once/week 2) less than once/ week

V. Self-evaluation of English ability

Please rate your English ability on the 9-point scale below.