―― 報　告 ――

# Compliance with Ophthalmology Outpatient Treatment Comparing Japanese and Foreign Patients in Tokyo

Yasuko Nagamatsu [1], Yumi Sakyo [1]

‖Abstract‖

This study examined compliance in two aspects. First, the compliance to scheduled office visits in A clinic were compared between all foreign（n=70）and matched Japanese patients (n=70). Compliance of foreign ophthalmologic clinic patients was 12.9% which was significantly less than 42.9% of Japanese patients（P<0.000）.

Second, the compliance between foreign patients who received a specialized nursing care by bilingual nurse（n=8）vs. those who did not（n=62）. Among 70 foreign patients, 8 patients meeting criteria as follows received bilingual nursing care；1）a failure to comply with treatment could result in damaged vision or life, 2）having an asymptomatic condition which could contribute to non-compliance, or 3）a complicated treatment plan. 75% of the foreign patients who received specialized nursing care complied with their clinical appointments as much as Japanese patients（84.5%）who also received special attention to adherence.

Keywords：compliance, foreigner, ophthalmology

## Ⅰ. Introduction

There are more than 2,085,000 registered foreigners in Japan (The Ministry of Justice, 2007). Although Japan's population started declining in 2005, registered foreigners soared to a record high of 2.01 million, a leap from 1.36 million a decade ago and accounting for 1.57 percent of the nation's total population. Support systems such as medical care, have not kept up with this increase. Serizawa（2007）noted, "…… given the rapid growth in the foreign resident population, health care organizations can no longer focus solely on meeting the needs of the Japanese population."

There are a number of difficulties facing foreigners, such as cost and language, when they need to seek health care（Sawada, 2003）. As a consequence, foreigners tend to delay visits to the hospital（Nakamura, 2003）. Another problem is that foreign patients have difficulty completing their treatments（Nakanishi, 1994）. There exists a real potential for chronic untreated disease among Japan's foreign population. Non-compliance of foreign patients also occurs in the area of ophthalmology. However the issues of compliance of foreign patients have received little attention among researchers and are seldom reported by physicians.

As foreigners tend to stay longer in Japan（The Ministry of Justice, 2007）, they may eventually develop eye problems such as farsightedness, cataracts, and glaucoma. The incidence of diabetes and its associated eye problems also increases as the foreigner population in Japan advances in age（Nagamatsu, 2007）.

As little is known about factors contributing to non-compliance to ophthalmology appointments among foreign residents in Japan, the following socio-environmental factors thought to be influential were selected: gender, age,

health insurance, distance from clinic, number of diagnoses, and amount of payment were collected.

## Ⅱ．Aims

This retrospective study aimed to compare the compliance of foreign and Japanese patients being treated at an ophthalmologic clinic（OC）and to describe the effectiveness of nursing care for the foreign patients.

## Ⅲ．Operational definitions

**Regular nursing care**: Routine assistance during ophthalmologist's consultation and further care in Japanese as requested by patients.

**Special nursing care:** Interviews in English or Japanese about health problems before consultation; assistance and interpretation during ophthalmologist's consultation and assurance of understanding the diagnosis and necessity of treatment after consultation.

## Ⅳ．Methodology

### 1．Design and Sample

This descriptive retrospective study included all medical records of foreign and matched on age and gender sample of Japanese patients who visited the Tokyo OC from August 1999 to July 2006. All medical records of patients with non-Japanese name were selected.

### 2．Human Subject Approval

An announcement of the study was posted in the waiting room of the clinic beginning April, 2005. It explained the purpose of the study and provided assurances of confidentiality, using an anonymous process whereby research findings were used only for research and academic presentations. It also stated that the patients could allow or refuse the use of his/her information without any disadvantages to their medical care.This study was approved by the Research Ethics Committee, St.Luke's College of Nursing, Tokyo, on June 2006.

### 3．Procedure

**Determination of foreign patients**（n=70）
Foreign patients were identified by their names since patients' nationality was not specified on the record.
**Matched samples of Japanese patients**（n=70）
Among all medical records of the patients with Japanese names, 70 patients were randomly selected according to the year of first visit. From 1999 to 2006, 8-9 patients matched by age group and gender were selected for each of those years for a total of 70 participants.

### 4．Nursing Factors

Foreign patients received regular nursing by Japanese nurse or specialized nursing care by part-time nurse who was bilingual in Japanese and English and spoke some Chinese and Malaysian as well. The criteria established that determined whether the foreign patient would receive specialized nursing care was: 1) a failure to comply with treatment could result in damaged vision or life, 2) having an asymptomatic condition which could contribute to non-compliance, or 3) a complicated treatment plan. For patients meeting the criteria, the bilingual nurse was assigned to interview the patient, before the ophthalmologist's consultation. The purpose of the interview was to clarify the patient's health problems, provide interpretation during the consultation. After the consultation bilingual nurse interviewed patients to ensure the patient understood the diagnosis and necessity of treatment. When the bilingual nurse was not immediately available at the clinic, she would place a telephone call to the patient at home and provide an explanation in English. The bilingual nurse provided this service soon after the ophthalmologist consultation. Japanese patients who meet the criteria were emphasized for adherence by a

Japanese nurse.

## ５．Variables

Age, gender, health insurance, nationality, occupation, marital status, distance between clinic and resident and amount of payment were investigated.

## ６．Method of Analysis

The chi-square test and t-test were used to examine the differences between the Japanese and foreign patients who completed their treatment and the ones who did not complete treatment. The effect of the special nursing care was examined by comparing the compliance between the group with specialized nursing care and group with routine nursing care. The statistical analysis was carried out using software SPSS version15.

## Ⅴ．Results

The response rate was 99.3% (N=140).

## １．Demographics of Patients (Table 1)

Among 12,464 patients, 0.56% (n=70) were foreigners.

The 70 Japanese patients selected as a control group were matched by gender and age groups to the foreign patients. The characteristic of two groups were shown in table 1.

## ２．Diagnoses (Table 2)

Patients had multiple diagnosis showed in Table 2. The 70 foreign patients were diagnosed with a total of 29 diseases. Among all diagnosis, 11.4% (n=8) required strict adherence to the treatment plan because of serious eye diseases such as injury and glaucoma. The foreign patients visited the clinic 2.3 times per their diagnosis. The average payment of each visit was 1,662.5 ¥. All foreign patients including ones without health insurance made their payments.

The 70 Japanese patients were diagnosed with a total of 18 diseases. Among all diagnosis, 11.4% (n=8) required strict adherence to the treatment plan because of serious eye diseases such as injury and glaucoma. Japanese patients visited 4.0 times per diagnosis. The average payment of each visit was 1,370.0 ¥.

## ３．Compliance (Table 3)

Among foreign patients, 12.9% (n=9) completed the regimen of appointments. Among Japanese patients, 42.9% (n=30) completed the regimen of appointments.

Japanese patients when compared to the foreign patients, were more likely to complete the care regimen prescribed by the ophthalmologist (p<0.000). The number of Japanese patients who completed their appointments and the rate of compliance of each diagnosis tended to be higher (p=0.040) in Japanese patients (18.3%) than foreign patient (9.3%).

Table 1. Demographics of subjects (N=140)

| Foreign (n=70) | | Japanese (n=70) | |
|---|---|---|---|
| Nationality | | | |
| Korea | 20 | Japanese | 70 |
| China | 20 | | |
| Brazil | 2 | | |
| Others | 5 | | |
| Unknown | 23 | | |
| Gender | | | |
| Male | 31 | | 31 |
| Female | 39 | | 39 |
| Age Group (years) | | | |
| 0～9 | 13 | | 13 |
| 10～19 | 8 | | 8 |
| 20～29 | 13 | | 13 |
| 30～39 | 21 | | 21 |
| 40～49 | 10 | | 10 |
| 50～59 | 4 | | 4 |
| 60～ | 1 | | 1 |
| Health Insurance & Health Assistance | | | |
| National Insurance | 39 | | 19 |
| Social Insurance | 19 | | 43 |
| Others | 12 | | 8 |
| Marital Status | | | |
| Married to Japanese | 24 | Married | 29 |
| (to Japanese n=13) | | | |
| (to Non-Japanese n=11) | | | |
| Single | 33 | Single | 35 |
| Unknown | 13 | Unknown | 6 |

Table 2.   Diagnosis of Patients（N=140）

| Acute | Foreign | Japanese | Chronic | Foreign | Japanese |
|---|---|---|---|---|---|
| INJURY | (n=70) | (n=70) | REFRACTIVE ERROR | (n=70) | (n=70) |
| bruised eye ball | 2 | 4 | astigmatism | 42 | 47 |
| traumatic mydriasis | 2 | 0 | Presbyopia | 4 | 0 |
| chamber angle | 2 | 0 | myopic | 3 | 0 |
| traumatic iritis | 1 | 1 | anisometropia | 3 | 0 |
| chemical burn | 1 | 0 | high myopia | 1 | 2 |
| sub total | 8 | 5 | uneven sight | 15 | 0 |
| INFECTION | | | sub total | 4 | 49 |
| conjunctivitis | 29 | 29 | OTHER | | |
| sty | 9 | 26 | allergic conjunctivitis | 19 | 37 |
| helpharitis | 10 | 2 | keratoconjunctivitis sicca | 6 | 3 |
| meibomitis | 3 | 1 | pterygium | 4 | 0 |
| simple herpes | 1 | 0 | glacoma | 3 | 7 |
| corneal erosion | 0 | 3 | trichiasis | 2 | 2 |
| sub total | 52 | 51 | detached retina | 1 | 0 |
| OTHER | | | keratoconus | 1 | 0 |
| foreign body in eye | 7 | 10 | pituitary gland tumor | 1 | 0 |
| conjunctive ulcer | 1 | 0 | eye albini | 1 | 0 |
| subretinal tear | 0 | 1 | eye-artery malformation | 1 | 0 |
| sub total | 8 | 11 | etrabisus | 1 | 0 |
| | | | chalazion | 0 | 6 |
| | | | squint | 0 | 1 |
| | | | asthenopia | 0 | 1 |
| | | | sub total | 40 | 60 |
| Total | 68 | 67 | Total | 94 | 109 |

Table 3.   Compliance of Foreign and Japanese patients（N=140）

| | Foreign Percent/frequency | Japanese Percent/frequency | P-Value |
|---|---|---|---|
| Compliance * | 12.9%　（9/70） | 42.9%　（30/70） | 0.000 |
| Completion／Diagnosis ** | 9.3% | 18.3% | 0.040 |
| Subset who needs strict adherence | 75.0%　（6/8） | 84.5%　（11/13） | 0.498 |

\* Compliance : Patients who have completed their appointments
\*\*Completion/Diagnosis : Average of No of compliance/No of diagnosis

## 4．Factors that affect compliance (Table 4)

　About foreign patients, there was no correlation between compliance and gender, nationality, national insurance, amount of payment per visit, nor distance from the clinic. However, compliance was positively correlated with age (p=0.1) and marital status (p=0.1). The patients who complied with their scheduled appointments were older than the ones who did not.  Foreign patients married to Japanese tended to complete their treatment more than others.

　About Japanese patients there was no correlation between compliance and age, gender, national insurance, amount of payment per visit, marital status nor distance from the clinic.

Table4.  Factors that affect foreign patients' compliance（N=70）

|  |  | Compliant | | Non-compliant | | P-value |
|---|---|---|---|---|---|---|
| Variables | Total | n=9 | 12.9(%) | n=61 | 87.1(%) | |
| Gender | Male | 3 | (9.7) | 28 | (90.3) | 0.368 |
| | Female | 6 | (15.4) | 33 | (84.6) | |
| Insurance | Yes | 9 | (13.8) | 56 | (86.2) | 0.492 |
| | No | 0 | 0 | 5 | (100.0) | |
| Married with Japanese | Yes | 5 | (38.5) | 8 | (61.5) | 0.009 |
| | No | 4 | (7.1) | 52 | (92.9) | |
| Speicialized Nursing care | Yes | 6 | (75.0) | 2 | (25.0) | 0.000 |
| | No | 3 | (4.8) | 59 | (95.2) | |
|  |  | Mean | | Mean | | P-value |
| Age（year） | | 41.11 | | 25.10 | | 0.004 |
| Payment / visit　（Yen） | | 1688.1 | | 1166.4 | | 0.623 |

## 5．Nursing for eligible foreign patients

Specialized nursing care was provided by a bilingual nurse for eight patients. English was used for six patients whose mother tongue was English.  A Korean and an Iranian who spoke English as a second language chose English rather than Japanese. For one Chinese patient, the Japanese language was used while using the Chinese leaflet about her diagnosis.

This group completed their clinic visits at the rate of 75%（n=6）. Those who received specialized nursing care were significantly more compliant than those who received routine nursing care by a Japanese nurse.  By means of Yates's Correction, we obtained $\chi^2$=25.184 which is significant at the 1% level.

## Ⅵ. Discussion

This study revealed that among the entire foreign patient population in the study, only 12.9% of foreign patients complied with their clinical appointments.  The patients attending the OC were fairly economically stable as they were employed and settled in the area around the clinic.  Their diagnoses were similar to a group of matched Japanese patients. The majority of foreign patients in the OC were under 40 years old so that they did not have diseases common among the elderly such as cataracts. Also the diagnoses from OC were different from the diagnoses of foreign ophthalmologic patients from a university hospital where more serious injuries（Iida, 1994）were found.  It is common that patients who have serious injuries visit the larger hospitals that can provide major surgical treatments instead of visiting a local clinic. It was anticipated that distance from the clinic would be a deterring factor, but that was not found to be a significant factor, nor was fee payment, as all subjects paid their fees.

Half of the foreign patients stopped coming after one or two visits. The dynamics that may be at play in this situation are multifaceted and interrelated. First, it is possible that foreign patients come to the ophthalmologic clinic to get medications and then stop coming once their symptoms disappear.  The reason for this may be an economical one; they do not want to spend the time and money attending the clinic once their symptoms have subsided.  Niven（1994）mentioned degree of change required in patient's lifestyle as a factor of noncompliance.  It is difficult to have a day off for foreign workers in Japan（Kunii, 1993；Miyajima, 1991）.  The difficulty to have time to visit the OC is supported by the fact that wives of Japanese were more likely to finish their treatments. This may be related to the idea that many women married to Japanese man do not work and thus had the time to complete the whole treatment plan.

The second explanation may be an issue of culture.  Marui（1997）explained health problems and difficulties in

treatment of foreign patients as a maladaptation. The way a foreign patient recognize his/her illness or treatment may be different from that a Japanese person. Or maybe patients visit the ophthalmologist for diagnosis and medication, without the intention of follow up.

The third reason is partly a function of the quality of health education provided by the OC. Patients do not always understand the necessity for treatment. The severity of illness as perceived by the patient and not the health professionals is a factor of the extent of noncompliance (Niven, 1994). The total rate of compliance was 12.9% however, without specialized nursing care, it would probably be much lower.

It has been reported that foreign patients easily give up their treatments, especially non-health insurance holders (Hobara, 1993 ; Hirano, 2000). This study shows that even insurance holders easily gave up on their treatment regimen. It is known that providing nursing care in English is very effective (Miyajima, 1991 ; Udagawa, 1999). Nishigauchi (2001) reported that casual conversation and using very basic English terminology was helpful in improving compliance.

However, it is a burden for the medical facility to provide bilingual nursing care in an outpatient department since it consumes much time, effort and money. In Japan the use of English in the medical care of foreign patients is very limited. However, those who speak neither English nor Japanese have more difficulty with compliance. With the increase in a non-English speaking population this situation will become even more problematic.

To make nursing successful, it is essential to establish a system to provide interpretive and culturally appropriate care as well as educational material such as posters or leaflets written in several languages in the medical setting. Some local governments and Non-Governmental Organizations provide voluntary translators (Ezaki, 2003), but it is not practical to use those services particularly for outpatients who visit the clinic without an appointment.

In this study an example of a practical solution for the language barrier in medical care was to provide bilingual special nursing care targeting health education for a high-risk group. It may be easier for a clinic to employ a part-time bilingual nurse to provide special care under certain criteria.

### Limitation

Not noted in the medical records were: nationality, length of stay in Japan and occupation therefore, their relation to compliance could not be examined.

Also, even though the response rate was exceptionally high, it should be noted that this data was limited to one clinic with 70 foreign patients who had stable jobs and health insurance. Therefore, the findings cannot be legitimately generalized to a larger population. However, this study demonstrates what Serizawa (2007) found, that culturally competent health education is a key to improving patient outcomes.

### Implication for Future Research

To calculate a more accurate picture of compliance among foreign patients in Tokyo several research approaches could be used. A larger survey using sampling techniques for a wider area including general hospitals would be useful. Focus groups of foreign patients would also provide deeper insights into what factors encourage and discourage compliance thus providing more precise questions for the survey. It would also be effective to conduct an epidemiological case-controlled study to measure the impact of nursing care by using patients who already have a disease or condition and retrospectively comparing the characteristics, including nursing care, of these patients with those who do not have the disease. Establishing an association between nursing care and compliance would provide the impetus for a random controlled trial involving nursing interventions.


## Ⅶ. Conclusion

This was the first study addressing the compliance of foreign ophthalmologic patients in Japan. Compliance of foreign ophthalmologic clinic patients was 12.9% which was significantly less than 42.9% of Japanese patients (P<0.000). However 75% of the foreign patients who received specialized nursing care complied with their clinical appointments as much as Japanese patients (84.5%) who also received special attention to adherence.

### Acknowledgement

# References

Ezaki M（2003）. Translating service for maternal and child health service. *Japanese Journal of Community Health Care* , 34(11), 16-25.

Hirano Y（2000）. Socio-demographic factors affecting access to and utilization of health care by Filipino workers in Japan. *Japanese Journal of Public Health* , 47(7), 602-609.

Hobara K（1993）. Foreign workers and social security. *The Journal of Public Health Practice.*, 57(5), 329-332.

Iida K（1994）. Ophthalmological service for foreign patients in university hospital in Tochigi. *Journal of the Tochigi Medical Society*, 24, 58-59.

Kunii O（1993）. Utilization of health care by Foreign workers and health service for foreigners in Japan. *The pharmaceutical monthly*, 35(10), 2023-2030.

Marui E（1997）. Health Problmes of Foreigners in Japan epidemiological view. *Japanese Journal of Public Health*, 44(10), 56.

Miyajima K（1991）. Issue of Foreign workers. Digest of Science of Labor , 46(9), 4-7.

Nagamatsu Y（2007）. Providing Successful Nursing Care to the Foreign Patient with Glaucoma, a Case Study. *Journal of St. Luke's Society for Nursing Research*, 33(3), 55-59.

Nakamura Y（2003）. Health and health Issues of Foreign Residents in Japan. Japanese of *Community Health Care*, 34(11), 79-84.

Nakanishi I（1994）. International health in Japan. -Medical service for Foreign patients-. *Journal of Integrated Medicine*, 4(3), 258-261.

Nishigauchi M（2001）. The need for English skills in the nursing practice in the sites of Nagoya prefecture. *Bulletin Nagoya College of Nursing*. 3, 51-56.

Niven N（1994）. An Introduction for Nurses and Other Health Care Professionals. *Health Psychology.* （123-128）. New York: Chruchill Livingstone.

Sawada T（2003）. The problem to be solved about Health Service for Foreign Patients in Japan. *Juntendo Medical Journal*, 48(1), 102.

Serizawa A. *Developing a culturally competent health care workforce in Japan*: Implications for education. Nursing Education Perspectives. 2007-05-01, Japan times on line：http://serch.iapantime.co.jp/cgi-bin/nn20070103fl.html.

Udagawa H（1999）. Nursing for Foreigners. *Nursing Today*, 14(10), 19-41.

*The Ministry of Justice. Immigration* Control 2007. 2009-05-05. Immigration Control in recent years.：http://www.moj.go.jp/NYUKAN/nyukan68-3.pdf.

# 眼科外来における外国人患者と
# 日本人患者の治療完了率

長松　康子[1]，佐居　由美[1]

1）聖路加看護大学

　眼科外来における治療完了率について2つの側面から比較を行った。まず，全外国人患者70名と，外国人患者の性・年齢群にマッチした日本人患者70名の治療完了率を比較した。その結果，外国人患者の治療完了率は12.9％であるのに対し，日本人群は42.9％と有意に高かった（P<0.000）。さらに，1）治療中断が視力や生命の危険となるもの，2）自覚症状が乏しいため治療継続が困難なもの，3）合併症のあるものという基準を満たす外国人患者8名に対して，外国語を話す看護師によるケアを行ったので，日本人看護師による通常ケアを受けた外国人患者62名と治療完了率と比較した。その結果，外国語を話す看護師のケアを受けた群の治療完了率は75％で，同基準で日本人看護師より治療継続を指導された日本人患者群の84.5％と同様に高かった。

**キーワード：**治療完了，外国人，眼科