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CURRENT STATUS OF RESPIRATORY DISEASES SUFFERED BY JAPANESE PEOPLE LIVING IN SOUTHEAST ASIA

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Abstract: We gathered and analyzed date on respiratory diseases suffered by Japanese adults treated in Ram Hospital in Chiang Mai and Subang Jaya Medical Center in Kuala Lumpur. In both hospitals, the percentages of patients undergoing treatment for respiratory diseases was the greatest. Of these, relatively mild symptoms such as upper respiratory tract infection account for the majority of the diseases, but also included are instances of lower respiratory tract infection or chronic respiratory diseases such as chronic sinusitis and COPD/bronchial asthma. In Kuala Lumpur, we conducted a questionnaire-based survey targeted on Japanese people living there, in order to detemine the currnt status of respiratory deseases. The date showed that many Japanese had symptoms of respiratory diseases and felt that air pollution was serious.

It is important for Japanese people living in Asia to be aware of preventative measures to prevent respiratory diseases, such as those caused by air pollution and infection.

Key words: Japanese people living abroad;Respiratory diseases; Air pollution

INTRODUCTION

During the post-war era, the number of Japanese traveling and living abroad long-term increased dramatically. According to statistics from the Ministry of Justice, those who went abroad in 2000 exceeded 17 million; roughly double that of 10 years ago. Also, according to statistics from the Ministry of Foreign Affairs, long-term overseas residents (three months or more) reached an all-time high of 540,000 in 2001. Particularly, the percentage of Japanese staying long-term in the Asian region has reached about 20% of the world total, and is increasing yearly.

In the past, health problems for Japanese people living abrond consisted mainly of infection, such as malaria and diarrhea. Recently, however, respiratory diseases have been increasing. Respiratory organs are sensitive to external influences, especially to changes in temperature and humidity. These are the main causes of respiratory diseases.

Also, rapid economic development, with its accompanying air pollution, is becoming serious in Asia. Reports from WHO rank cities in Asia, including those in China, India ets., as having the worst air pollution problems [1]. Many reports have alreadey linked the air pollution problem to respiratory diseases [2]. An effective response to this problem is needed because increasing numbers of Japanese people are going to live in the Asian region.

To date, research on diseases suffered by Japaneses, European and American people living abroad has been conducted frequently [3] [4].As a result, it is clear that there are many cases of respiratory diseases among those treated in local medical facilities. For example, research done by us in 2003 at two medical facilities in Southeast Asia (Thailand and Malaysia) on Japanese adults showed that the largest number of cases encountered were respiratory diseases [5]. Therefore, this time we concentrated on analyzing the data from these two facilities in order to learn more clearly the extent of respiratory diseases. We also analyze date from questionnaires given in Kuala Lumpure, Malaysia to learn the extent of respiratory diseases suffered by Japanese living there.

On the basis of these analyses, we describe the current status of respiratory diseases afflicting Japanese people liv-

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ing in Southeast Asia and the preventative measures used to combat these health problems.

METHODS

(1)Survey on diseases under medical treatment in Kuala Lumpure, Malaysia and Chiang Mai, Thailand.

The medical facilities covered by this research are: Ram Hospital in Chiang Mai, Thailand and Subang Jaya Medical Center in Kuala Lumpur, Malaysia. Ram Hospital, opened in 1993, is a private hospital with 300 beds, used by most of the Japanese people living in the city of Chiang Mai (Japanese population approximately 1,000). Subang Jaya Medical Center, opened in 1985, is a private hospital with 400 beds, located in the Subang Jaya area in the suburbs of Kuala Lumpur (Japanese population approximately 6,000). There are other hospitals in the city, such as Pantai Medical Center, Japan Medicare Clinic and Gleneagles Medical Center, each of which is used by many Japanese people.

The research spanned two years from January 2000 to December 2001. We gathered information including age, gender and diseases of Japanese being treated as out patients. To protect privacy, we gave patients ID numbers instead of using names. The number shown for each month represents the total number of treatments (some patients were counted more than once). The diseases treated are numbered 1 to 21 in accordance with the International Classification of Diseases (ICD-10). While most of patients coverd are long-term residents, the date also includes a number of short-stay tourists.

(2)Questionnaire survey in Kuala Lumpur, Malaysia

Questionnaires were given to adults in Kuala Lumpur, Malaysia when they came for a health consultation conducted in February 2003 by us. The contents of the questionnaire consisted of the followin items: ① Do you have symptoms of respiratory disease? ② If so, what are the symptoms? ③ When did you begin to feel the symptoms? ④ Do you feel that air pollution is serious? ⑤ Do you feel that air pollution is harmful to your health? ⑥ What do you think is the cause of the air pollution?

RESULTS

1） Diseases suffered by Japanese patients treated in Ram Hospital

Out of a total of 5,379 Japanese patients, 4,315 were adults (16 and over). The 30 to 39 age group was the largest, with 1,217 patients, followed by 20 to 29 with 937, and 40 to 49 with 773. By gender, 2,482 were male and 1,332 were female (1unknown). The average monthly number of treatments was 180, with more during the dry season from November to February and the rainy season from July to August. The fewest number of treatments occurred durting the hottest month of April.

Over the two-year period of the study, we noted that the largest number (739 patients representing 17.1%) suffered respiratory diseases, followed by digestive tract diseases, infections, injuries and skin diseases.

Out of these respiratory diseases, upper respiratory tract infection such as common cold and laryngopharyngitis accounted for more than half, (59.4%) of the total, followed by bronchitis (13.9%), tonsilitis (10.8%), chronic sinusitis (7.4%), chronic obstructive pulmonary disease (COPD) / bronchial asthma (4.2%) (Table 1). The number of patients treated on a monthly basis shows certain unevenness between 2000 and 2001, though the trend was high in the dry season from November to February (Figure 1).

Table 1. Number of respiratory diseases

	Ram Hospital 2000	2001	Total (%)	Subang Jaya Medical Center 2000	2001	Total (%)
⑴Upper Respiratory Tract Infection						
Common Cold	132	116	248 (33.5%)	120	144	264 (51.3%)
Laryngopharyngitis	98	94	192 (25.9%)	45	37	82 (15.9%)
Tonsilitis	36	44	80 (10.8%)	7	7	14 (2.7%)
⑵Lower Respiraory Tract Infection						
Bronchitis	44	59	103 (13.9%)	8	1	9 (1.2%)
Pneumonia	0	0	0	0	0	0
⑶Chronic Sinusitis	41	14	55 (7.4%)	15	15	30 (5.8%)
⑷COPD/Bronchial asthma	15	16	31 (4.2%)	21	13	34 (6.6%)

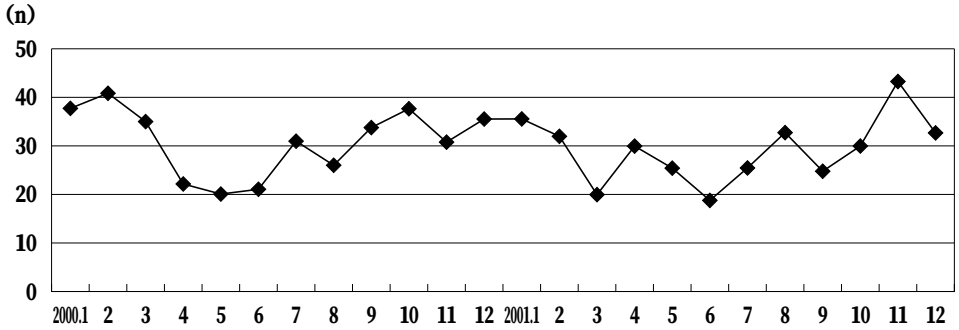

Figure 1. Ram Hospital
The monthly trend of respiratory disease patients

2）Diseases suffered by Japanese patients treated in Subang Jaya Medial Center

Out of a total of 7,313 patients, 4,570 were adults. The 30 to 39 age group was the largest, with 2,066 patients, followed by 40 to 49 with 1,066 and 20 to 29 with 630. By gender, 2,403 were male and 2,165 were female (two unknown). The average monthly number of treatments was 190, with more during the relatively dry season from May to July.

Over the two-year period of the study, we noted that the largest nuver (514 patients representing 11.2%) suffered respiretory diseases, followed by occular diseases, various clinical symptoms, skin diseases and muscle and skeletal diseases.

Out of these respiratory deiseases, acute upper respiratory tract infection such as common cold and laryngopharyngitis accounted for about 67% of the total, follwed by COPD / bronchial asthma (6.6%), chronic sinustitis (5.8%), tonsilitis (2.7%), bronchitis (1.2%) (Table 1). The monthly trend was high for treatments occurring during the dry season from May to July and in December (Figure 2).

Table 2. Result of questionnaire survey in Kuala Lumpur

①Do you have symptoms of respiratory disease?	
yes	27 (42.9%)
no	36 (57.1%)
②If so, what are the symptoms?	
sticking sputum	19 (30.2%)
coughing	18 (28.6%)
shortness of breath	17 (27.0%)
nasal secretion and congestion	10 (15.9%)
sore throat	7 (11.1%)
hoarse voice	6 (9.5%)
wheezing	3 (4.8%)
③When did you begin to feel the symptoms?	
before arrival	9 (33.3%)
after arrival	4 (14.8%)
not sure or did not answer	5 (18.5%)
④Do you feel that air pollution is serious?	
yes	36 (57.1%)
no	24 (38.1%)
⑤Do you feel that air pollution is harmful to your health?	
yes	18 (28.6%)
no	38 (60.3%)
⑥What do you think is the cause of the air pollution?	
industrial gas	8 (12.7%)
automobile exaust	26 (41.3%)
climate	6 (9.5%)
Enviromental sanitation	2 (3.2%)
Haze (smog from forest fire)	27 (42.9%)

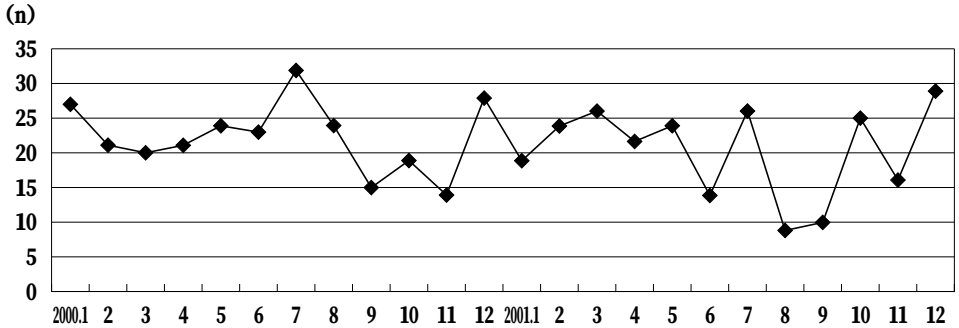

Figure 2. Subang Jaya Medical Center
The monthly trend of respiratory disease patients

3）Results of the questionnaire survey in Kuala Lumpure (Table2)

The total number of responders was 63, of whom 37 were male and 26 female. The average age was 55 and 47 of these had live there for two years or more.

Those who had symptoms of respiratory disease numbered 27, a high proportion of the total (42.9%). Of these 27, many suffered from light symptoms of upper tract infection, more specifically, 19 from sticking sputum, 18 from coughing, 17 from shortness of breath, 10 from nasal secreation and congestion, seven from sore throat, six from hoarse voice and three from wheezing or stridor. Also among the same 27, four indicated that symptoms began after their arrival and nine before, while 14 were not sure or did not answer at all.

More than half (36 responders, representing 57.1%) responded that air pollution was serious. On the other hand, only 18 responders (28.6%) indicated awareness that air pollution causes health problems. As to the causes of air pollution, eight mentioned industrial gas emission (12.7%), 26 automobile exhaust (41.3%), 27 haze (42.9%), and six climate (9.5%).

DISCUSSION

Since respiratory organs are in direct contact with the outside, they are affected by factors such as climate and pollution and can also be the entry point for viruses and bacteria. In 2003, the SARS epidemic ravaged Asia, and other infectious respiratory disease epidemics like influenza have been occurring continuously. Clearly, we must stress the importance of measures to prevent respiratory diseases among Japanese people living abroad.

The occurrence of respiratory diseases is common among travelers [3]. Steffen et al. estimated the rate of acute respiratory tract infections with fever to be 1.261 per 100,000 travelers for a stay of one month in a developing country [6].

Also, we see that many Japanese living abroad are being treated for respiratory diseases at overseas medical facilities [4]. Medical personnel of the Japanese Ministry of Foreign Affairs analyzed diseases being treated at Japanese embassies (178,014 cases from 1989 to 1998). The results indicated that respiratory diseases were the most prevalent, accounting for 31.7% of the total. Moreover, research conducted by the Japan Overseas Cooperation Volunteers on Japanese people living in developing countries indicates that respiratory diseases rank high among diseases under medical treatment[7]. In our previousu study on two medical facilities in Southeast Asia, we saw that respiratory diseases were the most prevalent, far exceeding infectious diseases and digestive tract diseases [5].

From the results of this latest research, we can see that instances of respiratory diseases increase during the dry season. At Ram Hospital in Chiang Mai, Thailand, the climate is tropical monsoon. The seasons are broadly divided into the dry season mainly from November to May, and the rainy season from June to October. The cold season is from November to February, while the hot season is from March to May. The average yearly temperature is around 25 degrees, and sometimes exceeds 40℃ during the hottest season.

Subang Jaya Medical Center is located in Kuala Lumpur, the capital of Malaysia. The climate of Malaysia, though different on the east and west sides of the Malay Peninsula, is generally that of a tropical rain forest. While temperature and humidity are high all year, the dry season is from May to September when precipitation is relatively low and the rainy season is from October to February when there is an abundant precipitation.

The number of cases of respiratory diseases at both facilities tends to increase during the dry season, though some difference is evident between 2000 and 2001. Relatively mild symptoms such as upper respiratory tract infection account for the majority of the respiratory diseases, but these also include instances of lower respiratory infection and chronic respiratory diseases such as COPD/bronchial asthma.

When the air is dry, the effectiveness of mucous membranes in the air passages diminishes. Also, dust and automobile exhaust are stirred up, causing an increase in respiratory diseases, mainly in the respiratory tract. We also know that many infectious viral respiratory diseases spread when temperature and humidity are low. Even in Japan, respiratory diseases caused by influenza or RS virus spread more readily during the winter dry period, and there are many cases of upper respiratory tract infection. Therefore, we feel that climactic factors, such as changes in temperature and humidity greatly affect the development of respiratory diseases in Japanese people living abroad.

Air pollution is another serious factor recently in the Asian region. Air pollutants such as sulfur oxides, nitrogen oxides, and suspended particulate matter (SPM) are known to cause damage to health. These substances can cause bronchitis, bronchial asthma, COPD and other respiratory diseases. SPM is a particle of 10 μm (PM 10) or less that floats in the atmosphere. Recent studies have reported a correlation between particulate air pollution and daily mortality rate. Especially particles of 2.5 μm (PM 2.5) contribute to the mortality related to respiratory diseases [2]. According to WHO, Asian cities such as those in China and India have acute air pollution levels, with the density of air pollutants

greatly exceeding Japanese standards. In 2002 during the health consultation in India, our questionnaire survey showed that many Japanese people living in India were aware of the health problems associated with air pollution, respiratory diseases in particular [8].

Near Malaysia, where Subang Jaya Medical Center is located, large-scale forest fires create smoke pollution (called “haze”) during the dry season, causing respiratory diseases to residents of the surrounding areas. Every year in this region, fires are set to clear forests for agriculture. During abnormally dry weather, fires can rage out of control. Large-scale smoke pollution occurred in 1991 and 1997, causing health problems for many inhabitants. Reports by Takeuchi in 2000 showed that many Japanese people living in Malaysia suffered from symptoms of respiratory disease, mainly those of upper respiratory tract infection. And many were concerned about the lack of information and effectiveness of local medical treatment [9].

In Kuala Lumpur our questionnaire survey showed that many Japanese living there had symptoms of respiratory diseases. Most Japanese people knew of haze, and many felt that the air pollution problem was serious even though the survey showed that relatively few of them were aware of the health problems caused by air pollution.

As more and more Japanese people migrate to Asian regions, the need for education in prevention of environmental diseases is becoming critical. Air pollution, temperature and humidity fluctuations, newly emerging infections and other factors are increasing. Although respiratory diseases caused by changes in weather and air pollution are apt to be overlooked because the early-stage symptoms are relatively light, adequate preventative measures are required in view of the fact that irreversible damage to health can occur with long-term exposure.

Based on the results of this research, we will continue to develop and issue preventative measures, and continue our research efforts in the Asian region.

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