

## The First Fact Finding Survey of All the Yusho Patients in Japan- after 40 years of the accident-

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### INTRODUCTION

In October 1968, a strange disease was reported in western part of Japan. This disease was characterized by acne-like eruptions, pigmentation of the skin, and eye discharge, and it was named Yusho (oil disease). Through systematic epidemiological studies based on observation of initial case series, and extensive efforts to clarify causal agents by the Study Group for Yusho in Japan, it was concluded that Yusho was caused by ingestion of rice oil contaminated with PCBs and PCDFs.<sup>1-3)</sup>

By the end of March 2011, 1,961 patients were registered as Yusho patients by local government authorities in each prefectures. Blood levels of PCBs and total TEQ of Dioxin was several ppb/whole blood and about 100 pg-TEQ/g lipids, respectively, after 35 years of the accident. Even though 43 years have passed since the episode occurred, no systematic information is available about all of the Yusho patients, besides, mortality among Yusho patients.<sup>4)</sup> Although, information on the patients who have had Yusho annual health examination have been accumulated.

In 2008, the Japanese Ministry of Health, Labor and Welfare carried out the first fact finding survey of all of the registered Yusho patients in order to improve Yusho studies for better patients care.

This paper aims to partially present data obtained by the first full scale survey of the Yusho patients, even though no reference group was chosen at the planning stage of the study.

### SUBJECTS AND METHODS

Target subjects were all registered Yusho patients as of March 2008. All eligible Yusho

patients were reached by local government authorities to get consent to participate in the survey. The subjects were asked to fill out a questionnaire (61 pages) prepared by the Planning Committee, including representatives of Yusho patients, for the survey, and to participate, with informed consent, in medical examination conducted by the Yusho Study Group.

The questionnaire includes questions on personal information, present and past medical treatments received, individual life style, health condition and mental stress, medical care support received, past history of diseases, past and present family members, health condition for children and grandchildren, etc. The survey was conducted in 2008.

All the data obtained from the questionnaire were carefully reviewed, coded and partially analyzed.<sup>5)</sup>

## RESULTS AND DISCUSSION

Among 1,420 registered Yusho patients, 1,331 patients were located and agreed to participate in this survey. Among 1,331 subjects, 1,131 patients (550 males and 581 females) returned the questionnaires for analysis. Response rate for male and female was 80.5% and 78.8%, respectively. The average age of male and female respondents was 60.1 year and 63.1 year, respectively.

As shown in Table, the present alcohol drinking rate for male and female patients is 70% and 27%, and the present smoking rate for male and female is 40% and 10%, respectively.

Sixty seven percent of male patients reported to have some inconvenience in daily life due to health conditions, and 76% of female patients reported some inconvenience in daily life. Forty eight patients (4.2%) among 1,131 respondents were admitted to medical facilities or health care facilities at the time of the survey.

Major physical complains for male patients included back pain (68%), general fatigue (59%), stiffness of the shoulders (50%), and numbness of extremities (54%), and female patients complained of back pain (71%), general fatigue (61%), stiffness of the shoulders (66%), and numbness of extremities (60%).

Besides, among Yusho patients a feeling of uneasiness for their future health and

daily life was described by around 340 cases, and discrimination or prejudice against Yusho patients were reported in around 80 cases. Also, a need for more government support and for bigger compensation by the company responsible for the accident was expressed in around 140 cases. As expected, many of the respondents asked to develop radical treatment methods.

The results stated above are only a part of the survey data because of the complexity of the data structure and inherent character of the data obtained. Further analysis should be done by the members of the Yusho Study Group .

It should be noted that the present survey conducted by the government is the first and only full scale fact finding survey that targeted all of the Yusho patients in Japan. Therefore, data obtained from the survey should be analyzed very carefully for future scientific and administrative work. However, three issues should be considered in data analysis and data interpretations. Firstly, the questionnaire used in the study was too long (68pages). This may have led to inaccuracy of the data. Secondly, the subjects are too old to answer questionnaire correctly because of ambiguity of memory due to time. Thirdly, no referent group for comparison was chosen in advance in the study because of various administrative and scientific reasons.

It should be carefully considered whether the data obtained here can be explained by dioxin related compounds itself, Yusho disease, or aging.

TABLE: Conditions of Yusho patients

Conditions	Male	Female
Average age	60.1	63.1
Alcohol drinking rate	70 %	27 %
Smoking rate	40 %	10 %
Some inconvenience in daily life due to health conditions	67 %	76 %
Medical facilities or health facilities at present	3 %	5 %
Major physical complains		
Back pain	68 %	71 %
General fatigue	59 %	61 %
Stiffness of shoulders	50 %	66 %
Numbness of extremities	54 %	60 %

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