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A Study on a Reduction in Visits to Physicians after Introduction of 30% Co-payments in the Employee Health Insurance in Japan

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Abstract: The purpose of the study is to evaluate influences of the introduction of 30% co-payments on potential visit behavior using a questionnaire in order to determine whether “employment state of the spouse” and “number of dependent children”, as indicators of economic backgrounds, affect visits to physicians in a health insurance society. The subjects were 1,674 insured consisting of 1,165 males and 509 females, who underwent a regular health examination in July 2002, in a health insurance society. In the survey, they were asked whether the subject “will reduce” or “will not reduce” visits to physicians due to the increase in co-payments in the health insurance system scheduled in 2003. Multivariate analyses showed that “employment state of the spouse” was significantly related to the reduction in visits for myocardial infarction or stroke, cancer or heart disease, and hypertension and diabetes mellitus. Concerning “number of dependent children”, it was related to the risk of reducing visits to physicians for myocardial infarction or stroke, trauma or fracture, cancer or heart disease, and low back pain or knee pain. Finally, upper limit expenditures of co-payments of physicians to visits due to hypertension and diabetes mellitus were related to “number of dependent children”. The study results suggest that “employment state of the spouse” and “number of dependent children” are significant factors to affect potential visits to physicians after the introduction of 30% co-payments.

Key words: Health policy, Co-payments, Health insurance, Income effect, Employment state of the spouse, Number of dependent children

Introduction

In Japan, the Universal Health Insurance System for the purpose of “visits to physicians whenever and wherever”

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was established at the inauguration of the National Health Insurance in 1961¹⁾. With the subsequent rapid growth of the Japanese economy, a system that provides medical care at relatively low costs while steadily distributing resources to medical care and also guaranteeing citizens access to medical care has been established²⁾. However, medical expenses have increased due to the rapid aging of the society and advances in medical technologies, and then a policy that increases patient co-payments has been adopted in recent years as a measure against the increasing medical expenses¹⁾.

In the Employee Health Insurance System in Japan, full coverage for employees had been a principle since its establishment. In October 1984, 10% patient co-payments were introduced by a revision of the insurance system¹⁾. The co-payments were further increased to 20% in September 1997, and their increase to 30% in April 2003 was scheduled. Our previous study showed a decrease in the visit rate after the introduction of 10% patient co-payment system in 1984 but only a transient influence on visits in patients with hypertension^{3,4)}. However, in another study on 20% patient co-payment, we observed permanent influences on patients with hypertension or diabetes mellitus with high compliance⁵⁾. The latter study also showed lower visit rates but longer visit days in the insured with lower standard monthly salaries or higher dependent rates in the health insurance society⁶⁾. This suggests that the income effects on visits to medical institutions, and that insured people with insufficient incomes visit physicians after the diseases become severer.

An increase in the co-payments of medical costs arises cost awareness in consumers or providers of medical services, which reduces unnecessary visits and excessive medical services, resulting in impartial efficient distribution of precious medical resources⁷⁾. On the other hand, there is the risk of a reduction in necessary visits, which aggravates diseases. It is important to clarify types of visits that are reduced with the increase in co-payment from 20% to 30% and the possible association between the economical background and the reduction in visits.

To determine whether the economical background affects visits to physicians, we predicted the influences of the introduction of 30% co-payments on visit behavior using a questionnaire in the insured in a health insurance society.

Subjects and Methods

Of 2,024 insured people (1,418 males and 606 females) in Health Insurance Society A in Fukuoka Prefecture, 1,674 (82.7%) consisting of 1,165 males (82.2%) and 509 females (84.0%) who underwent a regular health examination in July

2002 and gave informed consent for this study were analyzed. In the survey, they were asked whether they "will reduce" or "will not reduce" visits to physicians due to the increase in co-payments in the health insurance system scheduled in 2003. The evaluated diseases were "myocardial infarction or stroke" and "trauma or fracture" as emergency diseases, "cancer or heart disease" as serious diseases, and "hypertension or diabetes mellitus" and "depression" as chronic diseases, and "cold or gastroenteritis" and "low back pain or knee pain" as minor diseases. In addition, the subjects were asked to choose the upper limit expenditure of co-payments per month for visits to physicians due to hypertension or diabetes mellitus among "2,500 yen", "5,000 yen", "7,500 yen", "10,000 yen", "15,000 yen", and "> 15,000 yen". As attributes affecting visits to physicians, "gender", "age", "employment state of the spouse", and "number of dependent children" were selected. This health insurance society is the single insurance society including employees of a certain enterprise, and the salary did not markedly differ among insured employees when their "gender" and "age" were the same. Therefore, with adjustments for "gender" and "age", "employment state of the spouse" and "number of dependent children" can be parameters of economical backgrounds.

Multiple logistic analysis was performed according to each disease using whether visits will be reduced as a criterion variable and "gender", "age", "employment state of the spouse", and "number of dependent children" as explanatory variables. In addition, multiple logistic analysis was performed using whether the upper limit expenditure of co-payments is " \leq 5,000 yen" or "> 5,000" for hypertension and diabetes mellitus as the criterion variable. The upper limit of \leq 5,000 yen was considered to be the threshold of a reduction in visits. As explanatory variables, "gender", "age", "employment state of the spouse", and "number of dependent children" were used for both hypertension and diabetes mellitus, and "state of treatment for hypertension" or "state of treatment for diabetes mellitus" was added for each disease. "Age" was classified into "< 40 years", "40–49 years", and " \geq 50 years"; "employment state of the spouse" into "regular employee", "part-timer", "no occupation", and "no spouse"; "number of dependent children" into " \geq 4", "2 or 3", "1", and "0". As the order of "regular worker", "part-timer", "no occupation" as "employment state of the spouse" is assumed to be proportionate to household income and the number of children is assumed to be proportionate to household expenses, trend tests were conducted for those variables. No replies were excluded from analysis, and $p < 0.05$ was considered to be significant.

dependent children". A study in the U.S. showed more marked influences of an increase in co-payments on visits in lower income groups⁸⁾. Economical differences among employment insurance societies in Japan are marked⁶⁾, and possible differences in influences among standard monthly salaries should be also studied.

Contributions for medical expenses for the elderly from the Employee Health Insurance System have been annually increasing, exceeding 30% of the insurance revenue at present⁷⁾. Though the system was originally established to guarantee the health right of workers, benefit has been reduced by increases in patient co-payments due to increased medical expenses for the elderly. We have already reported that compliance rate for patients with both hypertension and diabetes mellitus decreased significantly after 20% co-payments introduction in 1997⁵⁾. A decrease in visits may affect the progression, cost, and outcome of these diseases. Considering the results of the study, we might have another reduction by 30% co-payments in 2003. The reduction in necessary visits due to increases in patient co-payments is an important problem. In the future, the support systems for the continuation of visits should be established in addition to the primary and secondary prevention of diseases in workplaces.

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