

Disease Management Reporter in Japan

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A study group on disease management in Japan, organized by Sompo Japan Research Institute Inc., recently held its fifth meeting on the subject of lifestyle-oriented chronic disease prevention program for employees. Yukiya Tanaka, president and representative director of Midori Well Planning Co., Ltd., spoke at the September 2006 meeting. He presented a case study from the Amagasaki city government health insurance society, which was followed by a question-and-answer session and discussion among member of the study group.

In 1969 Mr. Tanaka joined the city government of Amagasaki, mainly working in the personnel and labor areas. In 2000, when he was manager of the personnel department, he prepared the “Amagasaki City Government Employees’ Health Promotion Strategy”, which had the dual goals of reducing both medical spending and mortality, due to lifestyle-oriented chronic diseases among city employees. The program succeeded in both areas. In 2004, Mr. Tanaka resigned from his job with the Amagasaki city government and set up Midori Kikaku (predecessor of the current Midori Well Planning) in the same year. He now lectures and trains nurses and dieticians for local governments and private entities all over Japan.

In this issue of the Disease Management Reporter, we describe the Amagasaki city government’s health program for employees based on Mr. Tanaka’s lecture and other information we gathered.

Amagasaki City Government’s Disease Management Program For Employees

Program background and outline

1. Program background

In 1999 the Amagasaki City Government Health Insurance Society had the highest medical spending per member among 48 local government employees’ health insurance societies in Japan¹ and was at risk of reaching financial crisis within a few years. In addition, 106 of the employees had died over a period of ten years, twenty percent from heart disease or cerebrovascular disease, with lifestyle-oriented chronic disease thought to be the major cause. Also, approximately thirty employees began taking medical leave each year, and overall about fifty employees were continually on such leave. Most were not able to return to work within a short period. The total of their lost salaries plus the salaries of substitutes was estimated to total about ¥550 million every year.

A solution was urgently needed for the health insurance society to regain financial footing, and for the personnel and labor division of the government to stem the loss of human resources and reduce unnecessary spending on substitutes’ salaries.

2. Program outline

Amagasaki city government devised the “Amagasaki city government employees’ health promotion strategy” (referred to as

the “Health Promotion Strategy” below) in 2000, with the aim of reducing medical spending and eradicating fatal diseases of the employees. The government acknowledged that the health problems of the employees were a problem for the government and strengthened its lifestyle disease prevention program. The government selected employees most in need of reviewing their lifestyle based on the results of annual employee health examinations, and gave each employee health guidance, while at the same time introducing diverse programs to raise employees’ awareness of their health.

Consequently, the number of employees showing signs of heart disease or cerebrovascular disease declined from the following year, and deaths from heart disease dropped to zero. The number of employees taking medical leave fell at the same time. Annual medical spending of the health insurance society also declined.

Details of the program

Amagasaki city government analyzed the medical fee claims of its employees and their family members to gain an understanding of medical spending before the introduction of the Health Promotion Strategy. The government requested Ms. Katsuko Kumagaya, a nurse famous for health programs in Matsukawa-cho, Nagano Prefecture, to analyze the invoices. She showed that a great proportion of invoices for high charges were for treatment of underlying disease caused by visceral fat type

¹ The Mutual Aid Association Act (1962) requires mutual aid associations to make payments for medical benefit for local public service employees. Health insurance societies at that time were allowed to remain in existence, as an interim measure. Many health insurance societies have closed down because of financial difficulties and have converted to mutual aid associations.

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Table 1 Numbers of Amagasaki city government employees dying from circulatory disease

Year	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05
Heart disease	1	2	1	1	2	0	0	0	0	0
Cerebrovascular disease	0	0	2	0	2	0	2	0	1	0
Total	1	2	3	1	4	0	2	0	1	0

(Source: Mr. Tanaka's lecture)

Table 2 Health spending on Amagasaki city government employees

FY1998 (before the strategy)	¥898 million
FY1999	¥812 million
FY2000	¥787 million
FY2001	¥794 million

(Source: Mr. Tanaka's lecture)

of obesity, including chronic cases due to lack of prompt treatment and cases which could have been prevented had there been prevention measures. Diseases caused by visceral fat type of obesity are closely correlated with lifestyle and are considered preventable. The Amagasaki city government decided to focus on prevention, which they had previously given little attention.

They introduced two major measures. First to select employees not in ill-health but at risk of disease in the near future, and then to provide each of them with health guidance, and raise the health consciousness of all employees.

1. Health guidance to employees who need to review their lifestyle

The Amagasaki city government selected about 350 employees who were most in need of reviewing their lifestyle from among a total of approximately 4,700 employees and gave them health guidance. The selected employees usually received health guidance only once a year because there were just two or three nurses working for the government. The nurses devised all sorts of ideas to change the lifestyle of the selected employees with their health guidance.

(1) Selecting employees requiring health guidance using multiple risk factors

The results of health examinations of the employees were analyzed to select the employees requiring health guidance based on the concept of multiple risk factors². The meaning of this concept is that people with a higher number of risk factors are more likely to develop cardiovascular disease, because multiple minor risk factors (even if each risk factor has not reached an abnormal level) worsens the condition of the blood vessels.

After the annual health examination, a list of employees in order of risk level was drawn up based on the number of risk factors of each employee. Then two or three nurses instructed the approximately 350 employees (slightly less than a tenth of the total number of employees) at the top of the list in matters of healthy lifestyle. At this time, the nurses instructed the employees usually only once a year.

(2) Ideas to encourage people to follow health guidance

Interviews were planned to raise the effectiveness of health guidance. According to Mr. Tanaka, people who are requested to attend an interview because their health examination results are poor expect to be told to stop eating or stop drinking too much or to give up smoking. So he decided instead to make all employees collect their health

examination results in person, rather than calling only employees requiring health guidance. All of the employees came to collect their results when they had time to do so, and nurses talked to the employees with high health risk and provided health guidance in a natural way. The time spent to provide health guidance was not fixed; it varied by employee.

During the discussion with the at-risk employees, the nurses encouraged them to talk as much as possible. Mr. Tanaka believes that the usual way of giving health guidance is not very effective in encouraging people in need of improving their lifestyle to follow the guidance. Health guidance should be customized for the circumstances of each person. Mr. Tanaka said that it is effective for people with high health risk to realize their state of health by letting them talk about their health, etc., then to tailor guidance to suit their circumstances. Nurses listened to what the employees with high health risk had to say about their work life and home life while sometimes agreeing with them and even praising them. The nurses also asked them about their ordinary health conditions, etc., and provided health guidance appropriate for each employee based on the answers. Mr. Tanaka said that the employees with high health risk accepted unhesitatingly the health guidance that the nurses provided based on what they had said.

(3) Impact of health guidance using a list of employees in order of risk level

During the health guidance given to individual employees with high health risk, the nurses told them that employees who had died or had long leave due to sickness had been at the top of the list of employees in order of risk level, and that they, likewise, were at the top of the list. Mr. Tanaka saw most of the employees with high health risk became very grave after realizing their health conditions might lead them to the grave. Health guidance of thirty minutes to an hour per employee had sufficient impact to encourage employees with high health risk to change their lifestyles.

(4) Understanding the mechanism and realizing health examination results

In addition to providing health guidance, nurses explained the mechanism of the body so that employees with high health risk could truly understand it, emphasizing the need for such employees to be able to put the results of their health examinations in perspective.

For instance, the nurses used Chart 1 to make the employees understand the meaning of high blood pressure. The nurses told the employees that 110mmHg, that is normal blood pressure, is equivalent to a pressure able to push water up to a height of 1m 50cm; while 170mmHg, which is high blood pressure, is equivalent to water rising to a height of 2m 31cm; and that blood flows through vessels of between 3 - 8mm diameter with this pressure. The employees were able to realize that their blood pressure was high and what high blood pressure means.

The nurses used Chart 2 to help the employees understand the effect of visceral fat on their blood vessels. This chart was designed to show whether "vessels are deteriorating", "damage to vessels has started", "vessel conditions are changing" or "health problem exists" by writing down the health examination results and the health conditions observed. Employees with high health risk understood how their vessels were changing even though they had not real-

² This concept, called variously "multiple risk factor syndrome", "the deadly quartet", etc., is based on the theory that if more than one symptom, such as high blood pressure, hyperglycemia, hyperlipidemia or obesity, which, even alone, are significant health risk factors, are observed in an individual, the risk of onset of arteriosclerotic disease increases synergically. From around 1990, many studies were announced which concluded that the cause of the so-called multiple risk factor syndrome or deadly quartet was visceral fat. In 2001, WHO introduced the term, metabolic syndrome, and its diagnostic criteria. In Japan in 2005, the Metabolic Syndrome Diagnostic Criteria Investigation Committee announced its own original diagnostic criteria. In Japan, the term, "metabolic syndrome" is generally used and diagnostic criteria are set.

ures were implemented at the employee cafeteria where many of the employees go every day, including noting the fat and calorie content of each meal, reducing the quantity of rice, changing the recipes of meals which were too rich, and introducing a healthy lunch menu not containing deep fried food. This made the employees who used the cafeteria think about their health during lunch every day.

Health problems were focused on in employee newsletters including the addition of articles relating to employee health. Health information was provided to raise the awareness of employees and their families towards health problems.

As a consequence of these measures, it became obvious that many employees were trying to change their lifestyle. For instance, some employees started talking about calories and the fat content of food at parties, some cut their consumption of rice to reduce calorie intake, and an increasing number of employees started wearing pedometers and began using the stairs.

Major issues for “specific health checkup and follow-up health guidance and intervention program”³

Mr. Tanaka pointed out the following three major issues for “specific health checkup and follow-up health guidance and intervention program” to be conducted nationwide based on his experience in the Amagasaki city government.

1. Raising the capability of nurses and dieticians

The capability of nurses, dieticians and other people in health guidance significantly affects whether people will change their lifestyle. Unfortunately, there are few nurses, dieticians and

³The national government announced its intention to slow the increase in medical spending for the medium- and long-term by targeting a reduction in the number of people with lifestyle diseases, or at risk of lifestyle diseases of 25% by 2015, compared with the number in 2008. In order to meet this target, the Ministry of Health, Labour and Welfare will oblige all public insurers to provide health guidance focusing on metabolic syndrome from 2008. The name of this program is the “specific health checkup and follow-up health guidance and intervention program”. The ministry announced “the standardized program to help payers to implement their program” which contains an outline, procedures, etc., of the program.

other people with sufficient capability to provide health guidance. The national government announced its intention to establish a training system to raise the ability of tens of thousands of nurses and dieticians all over Japan for the provision of health guidance. However, it will take a few years just to learn how to use the teaching aids developed by the government. Mr. Tanaka wishes to help in raising the capability of nurses and dieticians, so he has set up a non-profit organization to do so.

2. Project assessment

The national government has targeted a reduction in the number of people suffering lifestyle diseases and people at risk of such diseases of 25% by 2015 compared with the number in 2008 in order to slow the increase in medical spending for the medium- and long-term. Medical insurers will be obliged to assess programs, and demonstrate they can reduce medical spending, improve health examination results and make people at risk change their lifestyle. They must continually improve their programs based on these results. Previously, such health promotion activities were assessed simply by the quantity of programs and guidance offered.

3. Access to health examinations for people insured by National Health Insurance

Access to health examinations is unequal in Japan. Public servants and employees have health examinations at work, but people insured by National Health Insurance⁴ do not have the same opportunity to receive them. The need for the “specific health checkup and follow-up health guidance and intervention program” is expected to be high for people who are less likely to have health examinations, such as part-time workers and people who move frequently, because these people tend not to have a regular lifestyle. Local governments must implement measures that suit the features of their region to ensure that as many people as possible insured by National Health Insurance receive health examinations and the appropriate health guidance.

⁴The public medical insurance system of Japan consists of employees' health insurance and National Health Insurance, and all people are insured by one of them.

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About our organization

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