

## Review Article

# The integration of school nutrition program into health promotion and prevention of lifestyle-related diseases in Japan

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After World War II, Japan has imported food from other countries to solve malnutrition, and then dietitians provided nutrition education to people for effective food utilization. Flour and skimmed milk imported from the United State were distributed to the school lunch program. Dietitians were trained to encourage the people to adapt western style dietary habits. The western style dietary habit issues have been brought since in 1980's as overeating and obesity have been considered as nation's health problems. In the 1990's, the prevention and treatment of lifestyle-related diseases became key objects for the nation. Government settled on "Healthy Japan 21" as a preventive policy of the lifestyle-related disease in 2000. In 2006, the middle survey for the effectiveness of the campaign was conducted, but it did not bring a good result as expected. The Ministry of Health, Labor and Welfare made the "Japanese Food Guide Spinning Top" for practical and easy mean to improve eating habits. Dietitians are in the process of developing new nutrition education using this tool. In 2005, the nine specific targets' Basic Law on Dietary Education "Shoku-Iku" was enacted to promote childhood dietary education. The Ministry of Education and Science started the new education to become a teacher called "diet and nutrition teacher" on the professional education programs of registered dietitian in university. "Diet and nutrition teachers" have already started teaching in some schools. From now, the roles of dietitians are not only supervising food preparation and planning meals but also nutrition education as teachers.

**Key Words:** dietitian, food guide, diet and nutrition teacher, lifestyle-related diseases, Shoku-Iku

## THE NUTRITIONAL STATUS AND NUTRITIONAL POLICIES IN JAPAN

Owing to food shortage following World War II, Japan imported food from other countries to solve the problem of malnutrition, and dietitians followed up on this by providing education on various aspects of nutrition for effective food utilization. Flour and skimmed milk were primarily imported from the United State and were distributed to schools for their lunch programs. A large number of dietitians were trained to encourage people to adapt to western style dietary habits. For example, dietitians in schools explained to children about the importance of proteins, fats, vitamins, and minerals, and educated them on the need to reduce their rice intake and increase the amount of meat, eggs, milk, and dairy products they were provided through school lunch meals. In various regions, dietitians put to practical use the "kitchen car", which was really a bus whose rear had been converted into a kitchen that was used to provide lessons on various cooking practices in Nutrition. Dietitians also taught people to focus on eating more western food, which contains higher levels of energy and fat than the traditional Japanese diet that emphasizes more rice intake.

The problem of malnutrition in postwar Japan was solved by substantially improving everyone's nutrition in a short period of time. School dietitians took on an important role in this. Japanese people subsequently began to de-

velop an interest in nutrition and this brought with it modernization and westernization of Japanese eating habits. During a period of rapid economic growth in 1960, the diets of Japanese people rapidly became richer because of the influence that supermarkets played in food distribution. As nutrition improved, so did children's physiques. Up until the present day, there have been significant changes in total energy intake. However, carbohydrate intakes have gradually decreased while the intakes of animal proteins and fats have rapidly increased.

After the malnutrition problem was solved, nutritionists and dietitians faced the overwhelmingly negative public that they were no longer necessary. The Ministry of Health and Welfare discussed the possibility that the qualification system for dieticians should be changed from national qualification to private qualification. However, the Japan Dietetic Association obstructed this matter when it conducted a vigorous protest movement.

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**Table 1.** Healthy Japan 21

9 Fields
Nutrition and eating habits
Physical activity and exercise
Care of the mind and adequate rest
Cigarettes
Alcohol
Taking care of one's teeth
Diabetes
Circulatory diseases
Cancer
Nutrition and eating habits are arranged into three stages
State of nutrition and nutrient (food) intake level
Knowledge, attitude, and practice level
Environmental level.

**Table 2.** New Education and Training Program Basic subjects

Applied and practical subjects:
1) Nutrition education
2) Public health nutrition
3) Clinical nutrition
4) Food service Management

Issues involving western-style dietary habits have been brought to people's attention more and more since the 1980's because of overeating and the obesity epidemic. These are considered national health problems. In the 1990's, the prevention and treatment of lifestyle-related diseases such as diabetes, hyperlipidemia, hypertension and arteriosclerosis became a key objective for the nation. In 1994, 1998 and 2004, the rate of obesity has gradually been increasing. In 2004, 20 to 30% of people over 20 years of age had already become obese. In Japan, 23% of men and 8.9% of women over 20 are suspected of having Metabolic Syndrome. Also, 22.6% of men and 7.8% of women are in the preliminary stages of the syndrome.

As a result, in 2000 the government settled on "Healthy Japan 21" as the premier preventive policy of lifestyle-related diseases. "Healthy Japan 21" is made up of 9 fields that are important in public health and medical settings (Table 1).

The "Healthy Japan 21" campaign began in 2000, and the objective values after 10 years were set. The government aimed to advance "Healthy Japan 21" as a more realistic option in the prevention of lifestyle-related diseases. In 2005, another survey on the effectiveness of the campaign was conducted, but the results did not turn out as expected. The Ministry of Health, Labor and Welfare focused on the important items, and they made the "Japanese Food Guide Spinning Top (ST)" as a practical and easy way to improve eating habits. Dietitians are in the process of developing new nutritional standards by using this guide.

### CHANGES IN DIETITIANS' ROLE

The first dietitian started working in 1926. This was 55 years after the science of nutrition was introduced to Japan in 1871. In 1937, they started working at public health centers for the prevention of tuberculosis under the auspices of the Public Health Center Law. In 1945, dieti-

tians were expected to work throughout Japan, because of the food shortage after World War II.

In 1999, the Ministry of Health and Welfare started the "Advisory Committee for the Future State of Nutrition in the 21st century", which convened wide-ranging debates and discussions throughout the country for approximately one year. This report pointed out the necessity of shifting from food-based nutrition to human-based nutrition in studies for the prevention of lifestyle-related diseases, and to train dietitians to do their work based on this in their local communities and clinical fields.

In 2000, the Dietitians Law was revised. Registered dietitians (管理栄養士) are defined as the following:

- Nutrition professionals holding a degree in nutrition science from an accredited university.
- Providing nutrition management, including nutrition education and nutrition support to sick and wounded people.

In 2002, new education and training programs were started. In 2006, newly registered dietitians started working on nutrition practices. The new education and training programs are organized in Table 2 below.

Clinical nutrition is becoming more and more important, and it is clear that registered dietitians should be educated and trained as professionals in the fields of public health, medical treatment, and welfare, rather than having an education based on home economics or agriculture science. Educational objectives for students involve developing the following skills for people who need nutrition management: 1) Nutrition Assessment, 2) Careful Nutrition Planning, 3) Nutrition Intervention (nutrition education and support), 4) Nutrition Monitoring, and 5) Evaluation.

### “SHOKU-IKU(食育)” と “DIET AND NUTRITION TEACHER(栄養教諭)”

In 2005, the Basic Law on Dietary Education, "Shoku-Iku (食育)", was enacted to promote childhood dietary education. This law was drawn up with the intent to educate people about the importance of eating proper meals in order to solve problems such as inappropriate eating habits and nutrition intake, disturbances in diets, decline in physical strength, increases in lifestyle-related diseases, a fall in the rate of food self-sufficiency, the lowering of a sense of gratitude for food, and so forth. The law sets nine specific targets, such as increasing the number of people who take a keen interest in dietary education, reducing the ratio of elementary school students skipping breakfast, etc.

The law sets specific targets.

- (1) Increasing the ratio of people with an interest in dietary education from its current level of 70% to 90% by 2010
- (2) Reducing the ratio of elementary school students skipping breakfast from the 4% recorded in 2000 to 0% by 2010

The Ministry of Education and Science started a new program to train people to become "diet and nutrition teachers (栄養教諭)" utilizing professional registered dietitian programs in university. The teacher is trained in pedagogy, which is added to the standard registered dietitian curriculum. "Diet and nutrition teachers" have already started teaching in some schools. From now on, the

role of a “diet and nutrition teachers” is not only to supervise food preparation and menu planning, but to also provide nutrition education as teachers.

Incidentally, the most effective precaution to take against lifestyle-related diseases is not only to modify the lifestyle which has already formed, but also to children shape the proper lifestyle. Nutrition education for children is a good influence on their eating habits. “Diet and Nutrition Teachers” manage school meals, and give classes and individual counseling to children in schools. Moreover, outside of school they give nutrition education to parents’ associations, amongst others. throughout Japan.

### **PRECAUTION AGAINST LIFESTYLE-RELATED DISEASES AND THE ACTIONS DIETICIANS WILL TAKE FROM HERE ON OUT**

In our country, we are facing issues with the aging of society coupled with a falling birthrate, so policies designed to control medical and nursing expenses has become a serious problem. This July, the national nursing insurance system that took effect in 2000, was revised. This new system was implemented in October 2005. Nutrition Care Management has been newly established in the national insurance system as a new provision.

For medical insurance system, the “addition of nutrition management during hospitalization” was established under the revision of the remuneration for medical treatment in September, 2006. Registered dieticians must provide nutrition assessment, nutritional care plans and nutrition monitoring for individuals who are covered by insurance.

Furthermore, “new medical examination – health guidance” starts in April 2008 and people who are from 40 to 74 years old are obligated to follow this health guidance. Registered dieticians, doctors, and public health nurses assume this duty. All subjects are divided into 3 groups with the risk levels focused on metabolic syndromes that are found as a result of medical examinations. The subjects at low risk are provided information, ones with moderate risk are offered motivational support, and those in a higher risk category are given positive support.

Dieticians are involved in every primary, secondary, and tertiary stage of the prevention domain of lifestyle-related diseases. The Basic Law on Dietary Education, “Shoku-Iku (食育)”, supports this system and “Diet and Nutrition Teachers (栄養教諭)” will aim to help children form healthy eating habits at an early age. Expectations are running very high. The Japan Dietetic Association makes “the prevention of lifestyle-related diseases” a high priority. At the present time, “Nutrition Car Stations” are being founded in various communities and are being used as an invaluable tool for all dieticians.

### **AUTHOR DISCLOSURES**

Teiji Nakamura, no conflicts of interest.