

Nutrition Session

Japan – Speaker

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COMMUNITY PROGRAMS FOR IMPROVING DIETS OF THE ELDERLY

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Introduction

Traditionally the elderly were used to live with the family of their child and were taken care of in the family. It was so called large family system in traditional Japan. With the amendment of the civil law of a family system (1947), and with the changes of people's working structure, the number of big family has been reducing and that of nuclear family has been increasing. This resulted in an increase of the elderly living alone or only with his or her spouse. Now the elderly have to live independently from the child's family. However there are many cases that they have difficulties in obtaining or preparing meals for themselves. It is very true for elderly men because of a lack of experience in these. Under this circumstance their dietary life has to be supported with in the community. Thus community nutrition programs have started in Japan. In this paper author reviews three typical examples of them and evaluate them from a view point of quality of their lives. The three are: 1) home-delivered meals program (Meals on Wheels Program), 2) cooking class for the elderly men and 3) home-delivered meals program by the members of the cooking class.

Home-Delivered Meals Program

Origins of Home-Delivered Meals Programs

An idea to deliver meals to frail people was born in the United Kingdom in 1905, and named "Meals on Wheels" program. It was brought to the USA in

1954.¹ However it was not until '60 that it was widely implemented. These were operated by non profit agencies.

In Japan, a home-delivered meals program was initiated in Musashino City² in 1973. Before the program began, volunteers had visited periodically the elderly living alone to see how they lived or what they needed. Through this work it was brought to light that their diet was very poor, which resulted in developing plans to provide the elderly with the meal service. It was tried on the bases of " trial and error " for three years. Meals were prepared at a nursing home. Volunteers were recruited for delivering meals and 105 people applied. They were the pioneers of the volunteer who were engaged in delivering service of the meals. The meals were served to 52 elderly people three times a week. Within one year the number of recipients were doubled. In 1976 a municipal bylaw concerning home delivered meals program was enacted. The number of the volunteers increased to more than 300 for three years.

Present Home-Delivered Meals Program Implemented in Tokyo

Home-delivered meals program was extended to 28 municipalities in 1983, and 57 in 1990.³ Now it was implemented in almost all the wards of Tokyo and cities in Tokyo . The responsible body of its management and the details of the program are diverse in each community.

Responsible Bodies of Management of Home-Delivered Meals Program

There are two different responsible bodies, namely a government and a non-government. The latter includes a social welfare council, a volunteer group, a welfare institution like a nursing home or a day care center. They are all nonprofit organizations. The number of groups and organizations newly started home-delivered meals program had been increasing every year until 1991. Although the increasing rate became a little less after that, the total number of organizations implementing the program has been increasing, and in 1995 it reached 402. One half of them is of non-governmental organizations (Table 1).

Details of the Program

Cooking place One of the most importance in planning the program is to ensure the place available for preparing meals. Kitchens in public facilities like

Table 1. Number of Home Delivered Meals Organizations in Tokyo

Responsible Body	Number of Organizations
Local Government	201 (50.0%)
Non Government	
Council of Social Welfare	88 (21.9%)
Volunteer Group	90 (22.4%)
Welfare Institute	15 (3.7%)
Non Profit Agency	8 (2.0%)
Total	402 (100.0%)

Source: Home Delivered Meals Programs implemented in Tokyo. Tokyo Metropolitan council of Social Welfare (1996)

a community center are widely used for the purpose (Table 2). A problem is that their cooking place is not always available for the program. There are cases that the kitchen of volunteers' own home is used because of the difficulty in finding a public cooking place. The rate of this is 17.9%. The rate of using the kitchen of nursing home (a home for the aged) is 17.3%. It has an advantage because of rich knowledge of food and nutrition for the elderly. Sometimes it may be a problem that they do not have extra capacity for the program. Another problem may be their location. If they are far away from the community, daily delivery of the meals would be difficult.

Table 2. Kitchen for Preparing Home Delivered Meals

Kitchen	Number of Organizations %
Governmental Facility	37.4%
Nursing Home, Nursery	17.3
Private Home	17.9
*Service Center	14.2
Food Industry	10.4
Public School	1.3
Hospital	1.6
Total	100.0

*Service Center for Homebound Elderly
 Source: Home Delivered Meals Programs implemented in Tokyo. Tokyo Metropolitan Council of Social Welfare (1996)

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Personnel Who Offer Services The Personnel who offer the cooking or delivering meals service have kept on increasing with the growth of these programs, and the number of them reached 13,061 in 1995 (Table 3). More than 90 % are volunteers. It shows that home-delivered meals programs entirely depend on volunteers. There are communities which can not implement the program because of being short of volunteers. Shortage of volunteers is a common problem in all the communities.⁴

Table 3. Who Offer Home-Delivered Meals Service

Service Person	Number of Persons
Volunteer	11960 (91.2%)
Welfare Commissioner	402 (3.1%)
Staff of Home for the Elderly	567 (4.3%)
Staff of Council of Social Welfare	132 (1.0%)
Total	13061 (100.0%)

Source: Home Delivered Meals Programs implemented in Tokyo, Tokyo Metropolitan Council of Social Welfare (1996)

Number of Times of Delivering Meals To support the diet of the elderly who are disabled and living alone, it is preferable that meals are served every day. However the recipients of having daily lunch service are 23.6%, and daily lunch and dinner service are only 2.9% (Table 4). Service of delivering one or two times a month or a year may have a meaning of mental support rather than the dietary support.

Table 4. Number of Times and Recipients of Home-Delivered Meals Service

Number of Times	Number of Recipients
1 per year~fewer than 1 per month	1096 (6.3%)
1 per month~fewer than 1 per week	3625 (21.0%)
1~2 per week	6607 (38.2%)
3~4 per week	1385 (8.0%)
5~7 per week	4071 (23.6%)
10~14 per week	498 (2.9%)
Total	17282 (100.0%)

Source: Home Delivered Meals Programs implemented in Tokyo, Tokyo Metropolitan Council of Social Welfare (1996)

Fund Recipients of home-delivered meals are requested to bear only the cost of foodstuffs. In general they have to pay 3 to 6 US dollars for one meal. The costs of food preparation including labor, maintenance of the facilities,

insurance on the volunteers should be subsidized by a government, otherwise the recipients have to bear the high cost. The shortage of financial resources is always the problem to volunteer groups. They had to hold bazaar, or approach to a foundation for borrowing the money.⁵ Some organizations⁶ were able to keep licensed cook staffs and start a program of delivering meals every day with the subsidies of "community welfare promotion fund". Besides the welfare promotion fund, there are a couple of funds applicable to the program. They are trust fund or the community chest funded by the government. It depends how much subsidy is offered from the public expense to operate a rich service of every day continuously.

Evaluation of Home-Delivered Meals Program

A program in which meals were delivered every day was initiated by Hino city in suburban Tokyo in 1968. The city organized the whole program. A nursing home was commissioned to prepare meals and deliver them to the elderly living alone. The number of the recipients of the meals were 36; 10 males and 26 females. Their average age was 75. Reasons of request for the service were listed in Table 5. The main objective of the service is to support the elderly unable to prepare their own meals. It is important to evaluate the program and to know whether they meet recipients' needs. On the bases of the findings, the programs could be improved for better services

Table 5. Reasons of Request for the Service

Reason	Number of Recipients
Chronic disease (heart, liver, kidney disease)	9
Malfunction	8
Shopping difficulties	6
Presence of physical disability (paralysis)	6
Lack of nutrition adequacy	5
Sight loss	2
Total	36

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In order to evaluate the effects of the program, the recipients' dietary habits and health status were surveyed twice by the author, before and after the program had started. The survey found improvements of the dietary habits and health of the recipients.

Improvement of Dietary Habit

(1) The number of foods taken per day before receiving the service was 8.4 in average. As 19 different kind of foods were included in the meal service menu at lunch, the total number of the foods that they took increased to 21 in average. The t-test shows a statistical significance in the two numbers between before and after (Table 6).

Table 6. Number of Foods Consumption before and after Home-Delivered Meals Implemented

	Number of Foods ^a
	Mean ± SD
Before receiving meals Service	8.4 ± 3.1
6 months after meals service implemented	21.1 ± 1.6

^a Number of kinds of foods

*** $p < 0.001$

Ono⁸ and Okumura⁹ also reported that the elderly living alone took very few foods per day, because of the physically disabled, living alone and difficulty in buying small portion of foodstuffs. Results of the National Nutrition Survey which was made by Ministry of Welfare showed that the more were number of foods taken, the higher was a percentage to meet the Recommended Dietary Allowances.¹⁰

(2) Frequency of milk and dairy products intake increased in 72% of the recipients. They responded that they took milk and dairy product more frequently than before. Milk and dairy products are always included in menus of delivered meals. One of the recipients responded that she drunk milk for the first time since the last ten years. High-calcium diet offered by delivered meals service may help to restore bone mass and prevent osteoporosis.

(3) Frequency of green vegetables, higher protein foods (meat, eggs, and

soybean products), seaweed, and pale colored vegetables intake increased in about one half of them.

(4) Frequency of fast and precooked foods intake was decreased in 31% of them. It was reported that more frequently used fast and precooked foods, less amounts of nutrients were taken than required.¹⁰ From this point of view the program is evaluated to be valuable.

(5) The favorite taste of their about 40% changed into less salty. The elderly have less keen sense of taste than the young.¹¹ Reduced taste perception for salt resulted in high sodium diet, which induced high blood pressure. Japanese guideline for assessing the intake of salt is set less than 10g per day. The menus are planned taking the guideline into consideration.

Improvement of Health

The recipients' appetite, sense of well being, bowel movements and sleep improved after they receive the service. It is notable that 64% of the elderly responded that they had more appetite than before. It was reported that most of those who had good appetite and bowel movement took balanced foods.¹²

Systolic blood pressure of the recipients lowered with a statistical significance after the service (Table 7). The change of the blood pressure may be due to changes of their dietary habits into less salty seasoning food and more nutritionally balanced foods.

Table 7. Blood Pressure before and after Home-Delivered Meals Implemented

	Blood pressure	
	systolic	diastolic
Before receiving meals service	143.9±20.7	76.3±11.2
6 months after meals service implemented	135.8±19.4	75.0± 9.5

t test : * $p < 0.05$

Attitude of the Recipients towards Home-delivered Meals Service

The recipients highly evaluated the meal delivery service . About 70% of the recipients stated the home-delivered meals were delicious. Another notable statements were “ Home-delivered meals program keeps the elderly healthier”, “There is much variety in the foods”, “It is the pleasure to talk to the people of delivering the food”, “It becomes possible to live with a sense of security”. It actually happened that the meal delivery volunteer found and helped an elderly man who laid down with unconscious.

As mentioned above it was found that the program promote their health through improved nutrition. In addition to that, it has sociologic significance, since the everyday visit reduces the isolation of the elderly.

The numbers of organizations which provide meals every day are not many yet, only about 26.5% of the total are counted. An increase of everyday service is requested.

Cooking Class for the Elderly Men

By Japanese tradition , men should not be engaged in food preparation. However nowadays there are many elderly men who have to be engaged in it because of living alone or with a wife who is sick in bed. Accordingly elderly men need to learn cooking to manage their diet by themselves.

Council of Social Welfare in Tachikawa city in Tokyo initiated a program “Cooking Class for Elderly Men” in 1987. In 1988, Akigawa city also started the same program, and after two years the members of cooking class developed home delivered-meals service on a volunteer base. Dietitians of the local government or welfare institution take on the job of teaching in both programs.

Attitudes toward cooking of the elderly men who were attending the cooking class in Tachikawa city and home-delivered meals service (meals service volunteer) in Akigawa city were studied.¹³ A survey was conducted in Tachikawa city in 1989 and in Akigawa city in 1993. The number of the subjects

to be studied were 21, average age was 70 in Tachikawa city. The number of subjects were 16, and the average age was 69 in Akigawa city. Elderly men who did not attend any of cooking class but attended cultural class were selected as a control group. The number of subjects were 29 with the average age of 71.

Table 8. Attitude toward Cooking

	Control Group	Cooking Class	Meals Volunteer	Significance
Interest in cooking				
(present)				
much	8(27.6)	12(57.1)	11(68.8)	
little	15(51.7)	9(42.9)	4(25.0)	*
no	6(20.7)	0(0.0)	0(0.0)	
(before)				
much	8(27.6)	11(52.3)	4(25.0)	
little	15(51.7)	7(33.3)	6(68.8)	NS
no	6(20.7)	3(14.3)	6(37.5)	
Prepare meals				
every day	0(0.0)	4(19.0)	2(12.5)	
some times	9(31.0)	11(52.4)	11(68.8)	**
don't	20(69.0)	6(28.6)	3(18.7)	
Shopping food				
very often	0(0.0)	8(38.1)	4(25.0)	
sometimes	14(48.3)	1(4.8)	7(43.8)	**
never	15(51.7)	12(57.1)	5(31.2)	

Chi-square test: * $p < 0.05$. ** $p < 0.01$. NS: no significance

The major findings of the surveys are the following:

(1) Their attitude to cooking, preparation of meals at home and shopping foodstuffs was different among the three groups. The difference of the attitude is statistically significant. The group of the meals service volunteer has the most interest in all the three items (cooking, meal preparation and food shopping).

The group of the cooking class comes second and the control group follows

(Table 8). It is noticeable that about 70% of the meals service volunteer group had an interest in cooking. From a "recall questionnaire" it was found that the numbers of the elderly men who had an interest in cooking were not statistically different among the three groups before they attended the programs. It is quite clear that the programs helped them with increasing their interest in cooking.

(2) The total number of the elderly men who knew 25 different cooking methods, such as "koguchigiri", "mijingiri", and "akunotorikata", were largest at the meals service volunteer group. Its percentage was 75. Next came the group of cooking class with percentage of 54.8. The bottom was the group of control. Only 34 percent of the control group member knew the 25 cooking methods. The difference of the percentage is statistically significant at the confidence level of 99%.

(3) From the free statements of the participants who joined the cooking class and home-delivered meals service, it was found that both groups placed a high value on the programs. They also appreciated the development of companionship within the group. Further, meals service volunteer group live worth while for having a thankful response from the recipients.

As stated above, both programs of the cooking class and the meals service volunteer are able to promote the capability of the elderly men to manage their dietary lives.

Discussion

Dietary life of the elderly was supported by the younger generation in the big family. But the more increasing is the population of the elderly, the more difficult would be it to be supported by their own family. However the elderly want to stay at their own home as long as possible. So, various supporting programs should be offered depending on the ability of the elderly to care for themselves.

Food-related industry also has begun to respond the needs of the elderly.¹⁴

There are needs to develop foods of easy-to-prepare, high hygienic standards, a changing variety of small packs or portions of nutritious instant and convenience foods at reasonable cost.¹⁵ They will help the elderly in regularly eating healthy and tasty meals. Such stores which meet the needs of the elderly living alone are required.

Another new program which has started recently on a volunteer base is "living with others". This program is named "Group Living" under which a home is provided for the elderly who are no longer able to care for themselves in their homes but who do not need to enter hospital. The elderly are involved in many aspects of daily life such as menu planning or preparing meals there.

One system like a "traditional family" (as used to be) is not enough, but multifaceted approach is required to support dietary life of the elderly. In other words, we can not overcome the problem of the elderly without the new system.

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Nutrition Session

Japan – Reactor Paper by Kazuko Okuno.
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THE IMPORTANCE OF EDUCATION ABOUT FOOD FOR PRE-SCHOOL CHILDREN

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In her paper , 'Community Programs for Improving the Diet of the Elderly', Professor Okuno, has highlighted the problems faced by the elderly living independently. A major problem is that of meal preparation, especially for elderly men. Many communities now provide food programs for the elderly and Professor Okuno's paper evaluates 3 such programs, such as "Meal on Wheels" and "Cooking Classes for Men". Professor Okuno concludes that such community programs improve the food habits of elderly persons and contribute to their health and quality of life. Social institutions and the food industry are also changing to cater for the needs of the elderly.

While cooking classes for elderly men may improve the lives of the participants, I wonder how strong their desire to learn cooking skills really is?

I believe that education about food at the pre-school level is far more important and effective in forming good food habits that should persist until old age.

We conducted a comparative research study into food preferences and food related behavior in pre-school children, aged 3 to 5 years, in four countries: Japan, Korea, China and Australia. Our findings revealed the following situation about the fathers' involvement in teaching their Children eating manners and taking charge of food preparation in the home.

	Teaching eating manners to children	In charge of food preparation
Japan	14.3 %	0 %
Korea	52.3 %	0 %
China	58.5 %	28.6 %
Australia	76.4 %	10.9 %

It appears that food preparation is a shared responsibility in China and Australia while in Japan and Korea, women take 100% of the responsibility. I believe that men in Japan and Korea have little or no interest in food and diet related matters and this may be one of the reason for the problem identified by Professor Okuno.

She reported that traditionally it was believed that men should not be engaged in food preparation, but our research shows that even today, in our modern society, men take little or no interest in food and its preparation.

We believe that it is important to teach pre-school children good food habits which may then persist until old age.

In one of our studies we have been teaching pre-school children about food for 5 years. The teaching material included nutrient requirements and body functioning, digestion, the hormonal rhythm of the body and the nature of food materials. Children aged 4 years and over, took a great interest in food and diet related information and were influenced by it. The number of times they discussed food in the home and during their meal times increased greatly, they helped with clearing up after the meal and they wanted to help their mothers with meal planning.

Such an interest in and about food in the children's pre-school years will influence their eating habits throughout their whole life.

We strongly believe that men, especially in Japan and Korea, must be educated about food in their pre-school days.

Therefore, when they become elderly, such men will have an interest in their diet and be able to manage their food well and thus live a satisfying and healthy life.