

Perception and Need for Elderly Meal Service Program of the Korean Elderly

Youngmee Lee¹, Junghyun Kim², Kiwan Lee¹

¹Department of Food and Nutrition, Kyungwon University, ²Department of Home Economics Education, Paichai University

This study was performed to assess the perception and need for the elderly meal service program of the Korean elderly. The purpose of this study was to assess the dietary environment factors which are related to the perception and need for such service. Subjects of this study were 800 elderly persons of whom responses were received from 769 (male: 26, female: 543) aged over 60 years. Their mean age was 7.51 ± 8.1 years. Seventy two point two percent of them lived with their family and 54.5% of them were supported economically by their children. Among their meal management behaviors, food purchasing was hard to perform and the most aid-needed activity. In their dietary environment, 47.1% of them were supported by their children. The percent of the subjects who were aware of the elderly meal service program was 48.4%. Men were more aware of the meal service program than women ($p < 0.01$). Elderly who were supported by government were more aware of this service than others. Elderly who were in poor dietary environment, were less affluent or had trouble preparing meals expressed better perception this service than others ($p < 0.05$). Those who requested meal services had poor dietary environment than those who did not ($p < 0.001$). The elderly who were younger, with higher income, and lived with a spouse had more demand for home delivered meal service. This study showed that the poorer the greater desire for meal services. Therefore, the need for urgent improvement and expansion of meal services for elderly is suggested by this study.

Key word : Perception, need, elderly meal service program, Korean elderly

INTRODUCTION

An aging society gives rise to a new lifestyle which leads to a variety of social and family problems. When people reach old age, their physical and mental abilities deteriorate and these elderly people confront many problems due to their diminished economic power and sense of isolation. It is the combination of personal, family and social factors that give rise to these problems. Therefore, the solution should also combine these three factors.

The Korean government enacted the Elderly Welfare Law in 1981 and specific projects were undertaken in 1987 for the welfare of the elderly staying with their families. Since then, there has been a continued interest in the welfare of the elderly, and today it has culminated in the silver business¹⁻². Of the welfare services for the elderly, the meal service program confronts problems faced by the contemporary elderly. The elderly meal service program can be further classified into the elderly meal facilities program, the elderly dining hall program and the home delivered meal service. Elderly meal service programs currently practiced in Korea include meals

provided to old people's homes (both free and paid), lunch provided free of charge to the elderly in parks and other locations and home delivered meal service provided by the Seoul municipal government for the elderly who have difficulty in maneuvering³⁻⁵. With the enactment of the 1987 welfare act for the elderly staying with their families, welfare could expand into the local community and protect the local elderly by carrying out the meal service, as part of its welfare program. Starting in 1991, the government initiated the Congregate Meals Program and set up dining halls in low-income areas to provide free lunch to the elderly with low income. Today, there are numerous social institutions that provide this program. Additionally, the Home Delivered Meals Program was also initiated in November, 1991. Under this program, low-income elderly who have difficulty moving about in every day life can have their meal delivered to their homes. Although Korea has carried out elderly meal service programs since 1987, albeit partially, the number of elderly people receiving the service is very limited, and the program itself has not been widely perceived. Furthermore, the current system is lacking in its objective of promoting welfare compared to the elderly welfare systems of the industrialized countries⁶⁻⁷, which have long histories and therefore could develop into a more diversified system. In this current state, it is imperative that Korea's elderly meal service program

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§ To whom correspondence should be addressed.

takes into account the different desires of both today's elderly and adults that are preparing for their old age.

The elderly meal problem should be solved in a way that can contribute to an improved quality of life for the elderly, rather than merely extending their lives by giving out free meals. The solution should extend beyond gratifying an empty stomach and should include various approaches that can improve the nutrition and health of the elderly^{6,9)}.

In other words, in order to realize a genuine welfare system for the elderly, comprehensive research and analyses must be made on all of the Korean elderly (including those staying in facilities, as well as those staying at home), so that a more effective elderly meal program can be implemented and expanded that can take into account real life issues facing the elderly.

In order to develop a more realistic and systematic elderly meal program so that it can better reflect the characteristics of the Korean elderly population, this paper analyzed how the Korean elderly perceive the elderly meal service program and examined how their different characteristics, family lives and dietary environment factors affect their perception of the program. It also analyzed how this perception differs from the need for such a program. By examining the various types of expectations, according to the various characteristics of the Korean elderly population, this paper seeks to provide some direction on how policies of the elderly meal service program can be implemented that can truly reflect the welfare aspects of this program, based on Korean realities.

METHODS

1. Subjects

This research was conducted by selecting at random 800 elderly people, over the age of 60, who live in their homes (those living in facilities were excluded) in Seoul and the Gyeonggi area. Excluding some incomplete material, survey material from 769 people were analyzed. Duration of this research lasted from March, 1999 until May, 1999.

2. Data collection

This research first established the objective. After setting up research assumptions, survey tools were developed based on these assumptions. A preliminary survey was first carried out, which was consequently corrected and revised, after which the main survey was conducted. After classifying Seoul and the Gyeonggi area into administrative units, subjects were assigned to respective areas so that not one area was given too much prominence. Trained researchers visited areas that elderly people often gather, such as old peoples' homes and old peoples' colleges, and conducted face to face interviews

with elderly people who were picked from a pool selected by the accidental sampling method. 20~35 minutes were spent on each interview.

3. Research contents

In order to analyze the general perception and need for the elderly meal service program, the survey was organized focusing on the following problems (Fig 1). First, in order to examine the factors in the general living environment of elderly subjects, personal factors such as sex, age, education, economic conditions etc were analyzed along with living environment factors such as dwelling situation, family living together, and the existence of anyone who supports the elderly. Second, in order to examine the factors in the dietary environment, this paper examined the dietary dependence, accompanied by examinations on dietary management conducts, money spend on foodstuffs, meal skipped by the elderly and the amount of food intake. Third, in order to examine the perception and degree of need for the elderly meal service program, which is the main objective of this paper, we analyzed change in perception according to living environment factors, along with an examination of the channel of perception. Furthermore, the need for such a program was analyzed, together with an examination of possible future meal programs.

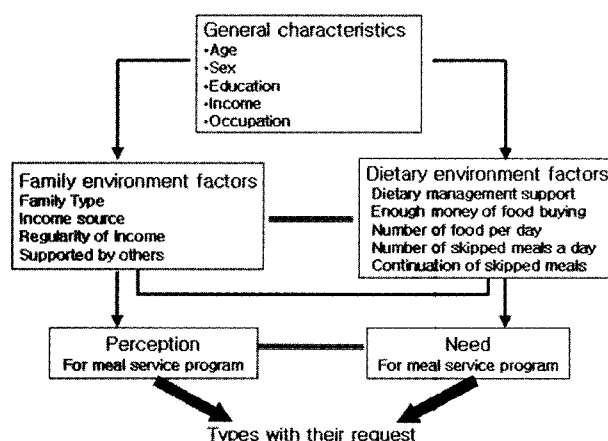


Fig 1. Study model

3. Data analysis

Researchers analyzed a total of 769 packets, after excluding 31 insincere or inadequate material. By using the SPSS PC Window Ver. 6.1 program, researchers analyzed the average, simple frequency, and percentage of the information compiled. In accordance with the general characteristics of the elderly subjects, the 2-test was carried out to analyze differences in the need, perception, type of meal service requested, and ways to further develop the meal service program.

RESULTS

1. General Living Environment

A total of 769 elderly people were selected as subjects for this research. 226 subjects(29.4%) were male and 543 subjects(70.6%) were female. Average age was 75.1 ± 8.1 , and for the level of education, elementary school graduates constituted the highest ratio. Only 7.8% had an occupation. 20.9% of the subjects had an income between KRW 100,000 to KRW 340,000, and 10.7% even had an income level lower than KRW 100,000. 50.5% of the subjects stated that they received all or some of their monthly income from their children, while only 18.1% relied on themselves for income. Disregard of how they

Table 1. General environmental characteristics of the subjects

Factors			
Sex	Male	226	(29.4)
	Female	543	(70.6)
	Total	769	(100.0)
Age(yr)	65>	60	(7.8)
	65 - 69	147	(19.1)
	70 - 74	147	(19.1)
	75 - 79	148	(19.2)
	80 - 84	124	(16.1)
	85<	107	(13.9)
	No response	36	(4.7)
	Total	769	(100.0)
Education Level	No education	67	(8.7)
	Primary school	162	(21.1)
	Middle school	75	(9.8)
	High school	92	(12.0)
	Over college	62	(8.1)
	No response	311	(40.4)
	Total	769	(100.0)
Income Source	Self	139	(18.1)
	Children(Partly)	97	(12.6)
	Children (All)	322	(41.9)
	Nation	34	(4.4)
	Others	15	(2.0)
	No response	162	(21.1)
	Total	769	(100.0)
Income Level (1000 won/month)	100>	82	(10.7)
	100 - 340	161	(20.9)
	350 - 600	46	(6.0)
	700 - 900	27	(3.5)
	1000 - 1800	62	(8.2)
	1900<	41	(5.3)
	No response	350	(45.5)
	Total	769	(100.0)
Type of family	Living alone	61	(7.9)
	Living with spouse	121	(15.7)
	Living with family	555	(72.2)
	No response	32	(4.2)
	Total	769	(100.0)
Regularity of Income	Regular	236	(30.7)
	Irregular	533	(69.3)
	Total	769	(100.0)
Occupation	Yes	60	(7.8)
	No	709	(92.2)
	Total	769	(100.0)

received their income, only 30.7% of the subjects replied that they received their income regularly, which shows that most of the Korean elderly suffer from economic difficulties (Table 1). Furthermore, 7.9% of the subjects lived alone, while 15.7% lived with their spouses and 72.2% lived with their family. This research discovered that most Korean elderly depended on their children and family for their general livelihood, including their economic state.

2. Dietary Environment

Traditionally, Korean elderly could solve their meal problem by eating with their children and family. These days, however, it is getting more and more difficult for elderly people to have meals with their married children due to changed family structures. Therefore, the current problem dealing with the dietary environment of the elderly has evolved into an issue that needs to be solved by both the family members and the community at large.

Previous research reveals that in comparison to other everyday activities that require assistance, 14% of the elderly between the ages of 60 and 64, and 55% of those over the age of 80, replied that they desired assistance in cooking activities. According to another research, 90.2% of the elderly replied that they would like to receive meal-related services if they could choose the kind of service provided to them. This suggests that meal-related activities become more burdensome as the elderly get older⁸⁻⁹). The study states that this phenomenon holds true for other countries as well, contributing to the Tea and Toast Syndrome that provides elderly people with convenient, yet unbalanced meals that do not require the elderly to cook their own food⁹). This research analyzed these dietary environment problems faced by contemporary Korean elderly, and tried to get a better grasp of its problems.

1) Meal Dependence

Table 2 shows the meal dependency of the elderly in accordance to the change of the living environment. As a whole, 33.9% relied on their own abilities for their meals, while those that depended on their children represented 47.1%, which is roughly half of the total number. This research noted different dietary solutions according to each different age group. Of the subjects aged between the ages of 60~64, 70.7% relied on their own abilities for their meals, while only 13.1% of those aged above 85 replied the same. This shows that as the elderly get older, their ability to manage meals themselves decreases accordingly ($p < 0.001$).

The income level of the elderly was also a variable that affected the elderly meal problem. Over 50% of the elderly who received an income of more than KRW 700,000 managed their meals themselves, while only 14.6% of

Table 2. The degree of dependence on meal management behavior of the elderly

Factors		Degree of dependence on meal management behavior										
		Self		Supported by their children		Supported by others		Supported by others partially		Others		Total
Age***	60y - 64y	41 (70.7)	5 (8.6)	3 (5.2)	9 (15.5)	0 (0.0)	58 (8.1)					
	65y - 69y	72 (50.3)	27 (18.9)	11 (7.7)	32 (22.4)	1 (0.7)	143 (19.9)					
	70y - 74y	61 (41.8)	54 (37.0)	9 (6.2)	21 (14.4)	1 (0.7)	146 (20.3)					
	75y - 79y	37 (25.9)	85 (59.4)	6 (4.2)	14 (9.8)	1 (0.7)	143 (19.9)					
	80y - 84y	19 (15.6)	87 (71.3)	5 (4.1)	8 (6.6)	3 (2.4)	122 (17.0)					
	more than 85y	14 (13.1)	8 (75.7)	1 (0.9)	10 (9.3)	3 (2.1)	107 (14.9)					
	Total	244 (33.9)	339 (47.1)	35 (4.9)	94 (13.1)	9 (1.3)	719 (100.0)					
Income level*** (1000won)	less than 100	12 (14.6)	56 (68.3)	1 (1.2)	13 (15.9)	0 (0.0)	82 (19.9)					
	100 - 300	36 (22.9)	85 (54.1)	5 (3.2)	30 (19.1)	1 (0.6)	157 (38.1)					
	350 - 600	17 (37.0)	20 (43.5)	4 (8.7)	4 (8.7)	1 (0.0)	46 (11.2)					
	700 - 900	14 (51.9)	7 (25.9)	3 (11.1)	3 (11.1)	0 (1.7)	27 (6.6)					
	1,000 - 1,800	34 (57.6)	9 (15.3)	3 (5.1)	12 (20.3)	1 (4.9)	59 (14.3)					
	more than 2,000	25 (61.0)	6 (14.6)	4 (9.8)	4 (9.8)	2	41 (10.0)					
	Total	138 (33.5)	183 (44.4)	20 (4.9)	66 (16.0)	5 (1.2)	412 (100.0)					
Regularity of Income	regular	85 (36.5)	94 (40.3)	13 (5.6)	38 (16.3)	3 (1.3)	233 (60.4)					
	irregular	49 (32.0)	64 (41.8)	10 (6.5)	30 (19.6)	0 (0.0)	153 (39.6)					
	Total	134 (34.7)	158 (40.9)	23 (6.0)	68 (17.6)	3 (0.8)	386 (100.0)					
Type of family***	alone	44 (75.9)	9 (15.5)	2 (3.4)	1 (1.7)	2 (3.4)	58 (8.0)					
	with spouse	79 (66.4)	7 (5.9)	19 (16.0)	13 (10.9)	3 (2.5)	119 (16.4)					
	with family	123 (22.5)	325 (59.4)	14 (2.6)	81 (14.8)	4 (0.7)	547 (75.6)					
	Total	246 (34.0)	341 (47.1)	35 (4.8)	95 (13.1)	9 (1.3)	724 (100.0)					
Occupation***	Yes	40 (69.0)	2 (3.4)	5 (8.6)	10 (17.2)	2 (3.4)	58 (9.0)					
	None	185 (31.4)	297 (50.3)	27 (4.6)	76 (12.9)	1 (0.2)	590 (91.0)					
	Total	225 (34.7)	299 (46.1)	32 (4.9)	86 (13.3)	6 (1.0)	648 (100.0)					

*** : p<0.001

those who received an income of less than KRW 100,000 replied the same. 68.3% of the elderly in this income bracket had to depend on their children for their meals. Consequently, we see that the ratio of dependence becomes greater as income of the elderly decreases ($p < 0.001$).

This study found that the dwelling situation of the elderly also influenced the meal situation. If the elderly lived with their family, only 22.5% of them were able to manage their meal themselves, whereas 59.4% depended on their children whom they lived with. We can see that the dwelling situation is an important variable in determining the elderly meal situation ($p < 0.001$). Occupation was also an important variable in determining the solution of the elderly meal problem ($p < 0.001$). 69.0% of the elderly that had jobs could rely on themselves for their meals.

In sum, we found that as the elderly aged further, the dependence for meals on their children increased, thereby increasing the burden on the family. Furthermore, elderly with low income had a higher ratio of dependence on the family ($p < 0.001$), while an increase in income raised the ratio of elderly who could rely on their own abilities. Elderly who didn't live with their family (either alone or

with a spouse) were found to have a higher rate of independence in providing their meals ($p < 0.001$). Therefore, this study found that most of the elderly subjects either depended on their children for their meals or relied on themselves. Very few of them got assistance from anyone other than family members. We could see that those who lived alone or lived with a spouse as a single household, who have relied on themselves for meals until now, would in the future ask for assistance from their family or other organizations, as they age even further and as income levels change.

2) Degree of Implementation of Meal Management

This study classified the series of stages that one goes through in order to prepare a meal, as the following; purchasing food, cooking and composing the menu, setting the table, cleaning up. Examination of the degree of participation of the elderly in each of these stages found that only 24.7%, 28.1%, 27.8%, 26.8% participated in each of these respective stages. This means that less than 30% of the elderly actually participated in the preparation of meals. Of these activities, food purchasing was deemed to be the activity that the elderly needed most assistance

with. 19.6% of the elderly subjects replied that they needed help with this activity. Next came cooking and composition of the menu stage with 11.4%, and then cleaning up with 8.5%, and finally setting the table with 2.9% (Fig 2). The study discovered that the elderly had most difficulty in shopping for foodstuffs, which required the elderly to move from place to place, while carrying all the groceries.

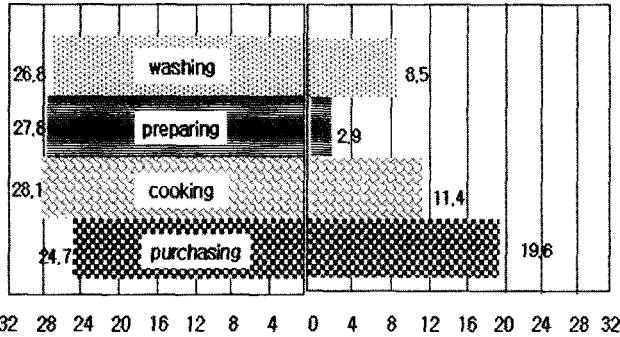


Fig 2. Comparison of the solubility of meal management behavior(left) and the perception on supportive necessity.(right)

3. Perception of the Elderly Meal Service Program

1) Perception and the Perceptive Channel of Living Environment Factors

Of all the elderly subjects covered by this study, 18.5% replied that they knew about the elderly meal service program. 51.6% replied that they heard about the program and 29.9% replied that they heard about the program but didn't know much about it (Table 3). This suggests that a total of 81.5% of the elderly subjects were not aware of the details of the elderly meal service program. By examining the figures according to sex, 23.6% of male respondents replied that they knew about the program while the percentage for female respondents was only 18.1%, which shows that the male elderly were more perceptive to the program than their female counterparts ($p < 0.01$). It is assumed that this result is due to the fact that the male elderly have less capability to prepare their own meals. By examining the figures by age group, we can see that those between the ages of 65 to 74 were the most perceptive to the program, whereas those over 85 showed very low perception ($p < 0.001$). The source of income also affected the perception of the elderly meal

Table 3. The degree of perception for elderly meal service program by their living environment factors

Factors		Degree of preception			
		Know	Little know	Never heard	Total
Sex**	Male	50 (23.6)	77 (36.3)	85 (40.1)	212 (30.1)
	Female	89 (18.1)	144 (29.3)	259 (52.6)	492 (69.9)
Age***	60y - 64y	8 (13.8)	31 (53.4)	19 (32.8)	58 (8.4)
	65y - 69y	34 (23.6)	55 (38.2)	55 (38.2)	144 (20.8)
	70y - 74y	33 (23.1)	33 (23.1)	77 (53.8)	143 (20.7)
	75y - 79y	24 (17.9)	44 (32.8)	66 (49.3)	134 (19.4)
	80y - 84y	27 (24.1)	26 (23.2)	59 (52.7)	112 (16.2)
	more than 85y	11 (11.0)	27 (27.0)	62 (62.0)	100 (14.5)
Income Source***	Full - Self	37 (27.2)	48 (35.3)	51 (37.5)	136 (23.7)
	Partially supported by children	19 (20.0)	23 (24.2)	53 (55.8)	95 (16.6)
	Full supported by children	46 (15.6)	79 (26.8)	170 (57.6)	295 (51.4)
	Supported by government	10 (30.3)	15 (45.5)	8 (24.2)	33 (5.7)
	Others	5 (33.3)	6 (40.0)	4 (26.7)	15 (2.6)
Income Level* (1000 won)	less than 100	15 (18.8)	14 (17.5)	51 (63.8)	80 (19.5)
	100 - 300	27 (17.4)	47 (30.3)	81 (52.3)	155 (37.7)
	350 - 600	12 (26.1)	13 (28.3)	21 (45.7)	46 (11.2)
	700 - 900	2 (7.4)	10 (37.0)	15 (55.6)	27 (6.6)
	1,000 - 1,800	17 (27.4)	23 (37.1)	22 (35.5)	62 (15.1)
	more than 2,000	10 (24.4)	16 (39.0)	15 (36.6)	41 (10.0)
Regularity of Income	regular	50 (21.2)	62 (26.3)	124 (52.5)	236 (61.0)
	irregular	30 (19.9)	54 (35.8)	67 (44.4)	151 (39.0)
Type of family	alone	(18) (32.1)	15 (26.8)	23 (41.1)	56 (8.1)
	with spouse	28 (24.3)	35 (30.4)	52 (45.2)	115 (16.6)
	with family	90 (17.2)	171 (32.8)	261 (50.0)	522 (75.3)
Occupation*	Yes	13 (21.7)	28 (46.7)	19 (31.7)	60 (9.5)
	No	116 (20.4)	16 (29.5)	28 (50.1)	56 (90.5)

*** : P < 0.001 ** : P < 0.01 * : P < 0.05

service program. Those receiving state support and those who supported themselves or were assisted by their children showed high perception of the program, while the majority of those who were supported entirely or partially by their children replied that they merely heard about the program, which suggests that there is a difference in perception according to the source of income ($p < 0.001$). For the elderly group with very low income (less than KRW 100,000), there was a higher proportion compare to other groups that replied that they have never heard about the program ($p < 0.05$). Elderly that lived with their family showed lower perception of the program compared to those that lived alone or lived with a spouse

as a single household (Fig 3, $p < 0.05$). Only 18.8% of the elderly that lived with their family knew about the program and 49.2% replied that they never even heard about the program. In contrast, 33.3% of those elderly who lived alone were perceptive of the program, which suggests that living with family is an important factor in the perception of the elderly meal service program ($p < 0.05$). On the other hand, perception was high for elderly subjects without anyone to assist them or those that have difficulty maneuvering themselves, but the differences were not so significant. This coincides with Militello's research¹⁰⁾, which discovered that in the case of developed countries, the use of home delivery meals for the elderly

Table 4. The perception channel for elderly meal service program by their living environment

Factors		Perception Channel										Total			
		Mass media		Leaflet		Friends		User		Visiting			Others		
Sex	Male	34	(47.9)	1	(1.4)	14	(19.7)	6	(8.5)	9	(12.7)	7	(9.9)	71	(36.6)
	Female	49	(39.8)	5	(4.1)	28	(22.8)	6	(4.9)	21	(17.1)	14	(11.4)	123	(63.4)
	Total	83	(42.8)	6	(3.1)	42	(21.6)	12	(6.2)	30	(15.5)	21	(10.8)	194	(100.0)
Age**	less than 64y	11	(73.3)	1	(6.7)	1	(6.7)	0	(0.0)	1	(6.7)	1	(6.7)	15	(8.5)
	65y - 69y	22	(59.5)	3	(8.1)	7	(18.9)	1	(2.7)	3	(8.1)	1	(2.7)	37	(20.9)
	70y - 74y	11	(26.8)	2	(4.9)	12	(29.3)	5	(12.2)	6	(14.6)	5	(12.2)	41	(23.2)
	75y - 79y	14	(40.0)	0	(0.0)	6	(17.1)	4	(11.4)	4	(11.4)	7	(20.0)	35	(19.8)
	80y - 84y	8	(26.7)	0	(0.0)	9	(30.0)	1	(3.3)	10	(33.3)	2	(6.7)	30	(16.9)
	more than 85y	5	(26.3)	0	(0.0)	3	(15.8)	1	(5.3)	5	(26.3)	5	(26.3)	19	(10.7)
Total	71	(40.1)	6	(3.4)	38	(21.5)	12	(6.8)	29	(16.4)	21	(11.9)	177	(100.0)	
Income Source	Full - Self	23	(57.5)	2	(5.0)	5	(12.5)	1	(2.5)	5	(12.5)	4	(10.0)	40	(25.3)
	Partially supported by children	14	(63.6)	0	(0.0)	7	(31.8)	0	(0.0)	0	(0.0)	1	(4.5)	22	(13.9)
	Full supported by children	22	(28.9)	1	(1.3)	21	(27.6)	6	(7.9)	14	(18.4)	12	(15.8)	76	(48.1)
	Supported by government	5	(38.5)	1	(7.7)	4	(30.8)	2	(15.4)	1	(7.7)	0	(0.0)	13	(8.2)
	Others	3	(42.9)	0	(0.0)	3	(42.9)	0	(0.0)	1	(14.3)	0	(0.0)	7	(4.4)
Total	67	(42.4)	4	(2.5)	40	(25.3)	9	(5.7)	21	(13.3)	17	(10.8)	158	(100.0)	
Income level*** (1000 won)	Less than 100	4	(16.7)	0	(0.0)	5	(20.8)	1	(4.2)	10	(41.7)	4	(16.7)	24	(19.4)
	100 - 300	17	(32.7)	2	(3.8)	17	(32.7)	6	(11.5)	6	(11.5)	4	(7.7)	52	(41.9)
	350 - 600	11	(73.3)	0	(0.0)	2	(13.3)	0	(0.0)	1	(3.7)	1	(6.7)	15	(12.1)
	700 - 900	3	(75.0)	0	(0.0)	0	(0.0)	1	(25.0)	0	(0.0)	0	(0.0)	4	(3.2)
	1000 - 1800	16	(76.2)	2	(9.5)	1	(4.8)	1	(4.8)	1	(4.8)	0	(0.0)	21	(16.9)
	More than 2000	7	(87.5)	0	(0.0)	1	(12.5)	0	(0.0)	0	(0.0)	0	(0.0)	8	(6.5)
Total	58	(46.8)	4	(3.2)	26	(21.0)	9	(7.3)	18	(14.5)	9	(7.3)	124	(100.0)	
regularity of Income	Regular	35	(54.7)	1	(1.6)	11	(17.2)	3	(4.7)	10	(15.6)	4	(6.3)	64	(62.7)
	Irregular	12	(31.6)	0	(0.0)	14	(36.8)	3	(7.9)	7	(18.4)	2	(5.3)	38	(37.3)
	Total	47	(46.1)	1	(1.0)	25	(24.5)	6	(5.9)	17	(16.7)	6	(5.9)	102	(100.0)
Type of family	Alone	7	(31.8)	1	(4.5)	6	(27.3)	2	(9.1)	4	(18.2)	2	(9.1)	22	(11.9)
	With Spouse	14	(45.2)	0	(0.0)	11	(35.5)	1	(3.2)	2	(6.5)	3	(9.7)	31	(16.8)
	With Family	55	(41.7)	5	(3.8)	25	(18.9)	9	(6.8)	23	(17.4)	15	(11.4)	132	(71.4)
	Total	76	(41.1)	6	(3.2)	42	(22.7)	12	(6.5)	29	(15.7)	20	(10.8)	185	(100.0)
Occupation	Yes	6	(42.9)	0	(0.0)	3	(21.4)	1	(7.1)	2	(14.3)	2	(14.3)	14	(8.4)
	None	57	(37.5)	3	(2.0)	38	(25.0)	10	(6.6)	27	(17.8)	17	(11.2)	152	(91.6)
	Total	63	(38.0)	3	(1.8)	41	(24.7)	11	(6.6)	29	(17.5)	19	(11.4)	166	(100.0)

multiple response

*** : P < 0.001

** : P < 0.01

grew along with the perception of such a system. This was especially true as the elderly aged even further, or in the case of those who did not get any assistance from their family.

As articles from other countries show¹²⁻¹⁵⁾, perception of the elderly meal service program varied according to the personal environment factors and living environment factors of the elderly. Although Korean elderly manifested less perception of the elderly meal program than the elderly in developed countries, perception among Korean elderly varied according to the need of such a program. A similar result between the two was that the elderly without adequate economic capabilities reported higher perception than those elderly who relied on their own abilities.

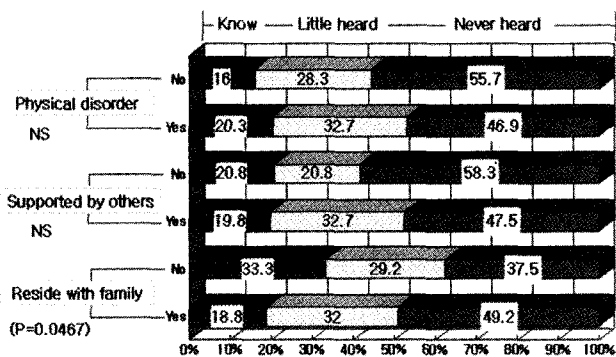


Fig 3. The degree of the perception for elderly meal service program by family environment

This paper also examined the perception channel of the elderly meal service program (Table 4). Overall, mass media(42.8%) played the greatest role in conveying information about the program. Next was perception through word-of-mouth by friends and family(21.6%), through direct visits (15.5%), and through direct information by a user of such meal supplying facilities (6.2%). Results showed that publicity material(3.18%) was the most ineffective way of propagating information about the program, which is a clear indication that the local community units have not done enough to introduce the program to the public. The perception channel also showed difference according to the age and income of the elderly subjects. The relatively younger elderly showed greater perception to the program than the older elderly, and the relative importance of direct visits increased as the elderly grew older ($p < 0.01$). Those with higher income showed greater perception through mass media, and those with less than a monthly income of KRW 300,000 perceived the program through word- of-mouth by friends and family, or through direct visits ($p < 0.001$). Therefore it is becoming more imperative that a more active and

realistic approach be applied(from public information to implementation) by the local community units to achieve a better-organized meal service system.

2) Perception According to the Dietary Environment

Having analyzed the difference in perception according to the general living environment of the elderly subjects, we applied the supposition that the dietary environment variable directly affected the perception of the program. This was extracted from our previous discovery that the ability to sustain oneself in everyday life acted as an important variable in determining perception.

Results showed that meal dependence according to the research on meal management did not exert great statistical influence on the perception of the meal service program. However, results did indicate that the elderly who were relying on themselves, or had some assistance from other people showed higher perception of the program than those who were completely dependent on their children for their meals (Table 5).

Table 5. The degree of Perception for elderly meal service program by their dependence of meal management behavior of the elderly

	Know	Little heard	Never heard	Total
Self.	56 (22.8)	64 (26.0)	126 (51.2)	246 (34.6)
Full supported by children	57 (17.1)	118 (35.4)	158 (47.4)	333 (46.8)
Supported by others	27 (21.4)	44 (34.9)	55 (43.7)	126 (17.7)
Others	1 (14.3)	1 (14.3)	5 (71.4)	7 (1.0)
Total	141 (100.0)	227 (100.0)	344 (100.0)	712 (100.0)

multiple response

Of those elderly subjects who didn't have enough income to manage their meals, 28.4% replied that they were perceptive of the program, while the figure for those with enough income was only 19.1% Fig 4 ($p < 0.05$). This result coincides with research from other countries, which makes the case even more urgent for the implementation of a meal service program, especially for those elderly do not receive enough income to manage their meals on their own. In addition, 38.7% of the elderly who continuously skipped meals due to physical, mental and economic reasons were perceptive of the program, which is a particularly high percentage compared to other elderly groups. We can conceive that these elderly feel a stronger need for the elderly meal service program compared to others ($p < 0.05$). On the other hand, such factors as the number of foodstuffs per meal or the possibility of having 3 meals per day did not exert a strong effect on the perception.

Table 6. Need of elderly meal service program

Factors		Need						Total	
		Necessity		Non - Necessity		Never considered			
Sex***	Male	147	(70.3)	7	(3.3)	55	(26.3)	209	(31.0)
	Female	262	(56.2)	5	(1.1)	199	(42.)	466	(69.0)
	Total	409	(60.6)	12	(1.8)	254	(37.6)	675	(100.0)
Age**	60y - 64y	39	(67.2)	1	(1.7)	18	(31.0)	58	(8.8)
	65y - 69y	94	(68.1)	2	(1.4)	42	(30.4)	138	(20.8)
	70y - 74y	85	(61.2)	5	(3.6)	49	(35.3)	139	(21.0)
	75y - 79y	76	(58.0)	2	(1.5)	53	(40.5)	131	(19.8)
	80y - 84y	69	(65.7)	2	(1.9)	34	(32.4)	105	(15.9)
	More than 85y	38	(41.8)	0.0	(0.0)	53	(58.2)	91	(13.7)
Total	401	(60.6)	12	(1.8)	249	(37.6)	662	(100.0)	
Income Source	Full - Self	92	(68.7)	2	(1.5)	40	(29.9)	134	(24.0)
	Partially supported by children	58	(63.0)	1	(1.1)	33	(35.9)	92	(16.5)
	Full supported by children	157	(55.1)	4	(1.4)	124	(43.5)	285	(51.0)
	Supported by government	24	(72.7)	1	(3.0)	8	(24.2)	33	(5.9)
	Others	11	(73.3)	0.0	(0.0)	4	(26.7)	15	(2.7)
	Total	342	(61.2)	8	(1.4)	209	(37.4)	559	(100.0)
Income level** (1000 won)	Less than 100	29	(38.2)	2	(2.6)	45	(59.2)	76	(19.2)
	100 - 300	80	(55.2)	0.0	(0.0)	65	(44.8)	145	(36.6)
	350 - 600	29	(63.0)	1	(2.2)	16	(34.8)	46	(11.6)
	700 - 900	13	(48.1)	1	(3.7)	13	(48.1)	27	(6.8)
	1000 - 1800	45	(72.6)	0.0	(0.0)	17	(27.4)	62	(15.7)
	More than 2000	28	(70.0)	1	(2.5)	11	(27.5)	40	(10.1)
Total	224	(56.6)	5	(1.3)	167	(42.2)	396	(100.0)	
Regularity of Income	Regular	135	(58.7)	2	(0.9)	93	(40.4)	230	(60.5)
	Irregular	89	(59.3)	4	(2.7)	57	(38.0)	150	(39.5)
	Total	224	(58.9)	6	(1.6)	150	(39.5)	380	(100.0)
Type of family	Alone	32	(60.4)	1	(1.9)	20	(37.7)	53	(7.9)
	With spouse	77	(68.8)	4	(3.6)	31	(27.7)	112	(16.8)
	With family	290	(57.8)	6	(1.2)	206	(41.0)	502	(75.3)
	Total	399	(59.8)	11	(1.6)	257	(38.5)	667	(100.0)
Occupation*	Yes	45	(75.0)	1	(1.7)	14	(23.3)	60	(10.0)
	None	312	(57.8)	10	(1.9)	218	(40.4)	540	(90.0)
	Total	357	(59.5)	11	(1.8)	232	(38.7)	600	(100.0)

multiple response *** : P < 0.001 ** : P < 0.01 * : P < 0.05

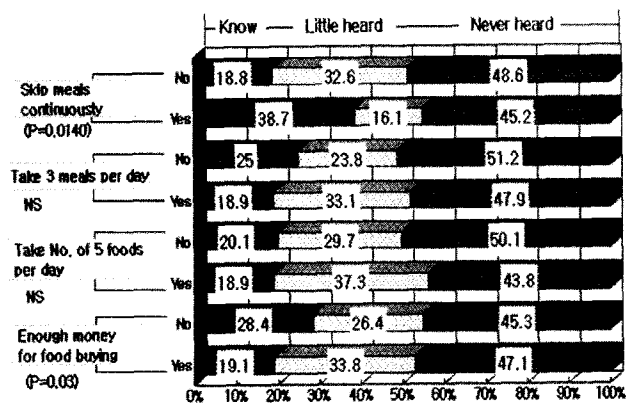


Fig 4. The degree of perception for elderly meal service program by dietary environment of the elderly

4. The Degree of Need for Elderly Meal Service Program

1) Need for Elderly Meal Service Program according to Living Environment

Elderly subjects were asked whether an elderly meal service program was needed as part of overall elderly welfare. 60.6% replied that it was needed, which implies overwhelming support for such a program (Table 6). When classified by sex, 70.3% of the male elderly replied that it was needed, which was much higher than the female elderly figure of 56.2% (p<0.001). As for age group, results showed that the need for a meal service program increased as the age of the elderly grew younger. While 67.2% of those below 64 years of age and 68.1% of those between 65 ~ 69 replied that there was such a need for such

a program, only 41.8% of those over the age of 85 replied the same ($p < 0.01$). This result indicates that the younger elderly have a better perception of the changing society and family structure, thereby enabling them to feel a stronger need for a system to deal with these changes.

There wasn't much meaningful difference in the perception of need according to monthly income, but those elderly receiving state support did display a higher need for the meal service program. The higher income elderly displayed higher need for such a program ($p < 0.01$). 70% of those with income of more than KRW 1,000,000 replied that there was a need for the meal service program, while only 59.2% of those with income lower than KRW 100,000 replied that they have never even thought about the issue. This result implies that the elderly who most need it actually show low levels of interest about the elderly meal service program. Also, 75% of the elderly who currently have jobs replied that there was a need for the program, whereas only 57.8% of unemployed elderly replied the same, which tells us that there is a difference in the degree of need according to the employment status of the elderly ($p < 0.05$).

Meanwhile, there wasn't much difference in the degree of need depending on whether or not the elderly were living with their family and nor was there much difference depending on whether or not they were receiving any assistance from anyone else. However, the existence of any physical disability did exert influence on the degree of need for the meal service program (Fig 5.) It was discovered that the physically challenged elderly felt great need for such a program.

According to previous research from other countries, such as Nakura's work¹¹, elderly males tend to show stronger need for the meal service program. This degree of need increases if the elderly live alone. Our research showed a similar result as is shown in¹¹⁻¹⁷. Elderly with an occupation or high income showed a more active and positive response to the meal service program as part of an overall program to promote the welfare of the elderly.

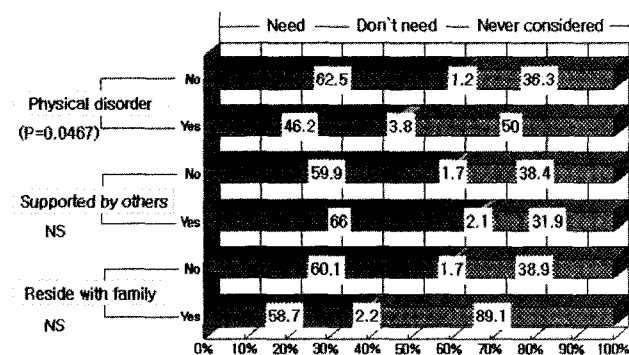


Fig 5. Need for elderly meal service program by their living environment

2) Degree of need for Elderly Meal Service Program by Dietary Environment

Analysis of the degree of need for elderly meal service according to meal dependence shows us that 68.8% of the elderly who support themselves for meals feel strong need for the program, whereas 50% of those who were either completely dependent on their children or were partially dependent on others replied the same (Table 7). Therefore, results suggest that a majority of the elderly subjects recognized the need for the meal service program and this was especially true for those who had to manage their meals on their own (Table 7).

Table 7. The need for elderly meal service program by their dependence on meal management behavior of the elderly

	Necessity	Non-Necessity	never considered	Total
Self.	163 (68.8)	5 (2.1)	69 (29.1)	237 (34.8)
Full supported by children	166 (53.0)	5 (1.6)	142 (45.4)	313 (45.9)
Supported by others	72 (57.6)	2 (1.6)	51 (40.8)	125 (18.3)
Others	6 (85.7)	0 (0.0)	1 (14.3)	7 (1.0)
Total	407 (59.6)	12 (1.75)	263 (38.5)	682 (100.0)

multiple response P < 0.01

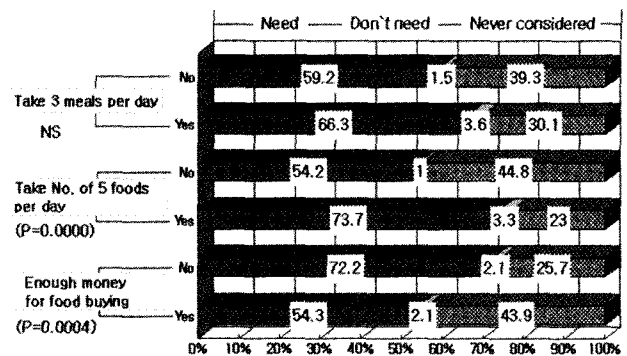


Fig 6. Need for elderly meal service program by dietary environment of the elderly

Moreover, the degree of need for the program was strong for those who did not have adequate income compared to those with sufficient income for meals ($p < 0.001$). There was more need for the program for the elderly with intake of less than 5 foodstuffs per day, compared to those with intake above 5 (Fig 6.) ($p < 0.001$). Scholars such as Burkhardt¹² suggested greater need for a nutrition and health program for the elderly who lived alone and had low income with minority background. Moreover, Nakura¹¹ also stated that the elderly with poor health displayed a stronger need

for the meal service program, and showed that this need increased proportionately for those elderly who had trouble preparing a meal, and increased even further when the difficulty in preparing a meal increased even further. These results offer a different outcome from the perception level of the elderly. Korean elderly were found to display low perception to the elderly meal service program, but showed strong need for such a program (Fig 6).

5. Ways to Develop the Elderly Meal Service Program

In order to estimate what the expectations were of the

elderly meal service program, this research asked the elderly subjects which type of program they would use if the elderly meal service program were to be implemented. This research also tried to predict the expectations of the program by analyzing how the elderly hoped the program will develop.

1) Types of possible meal service programs for the elderly

When asked what type of elderly meal service programs would be possible to implement, dining halls secured first place with 43.1%. Meals provided with or without payment by old people homes, and home delivered meal service were also mentioned with 25.3% and 25.8% respectively (Table 8).

Table 8. Type of Elderly Meal Service Program in accordance with their request

Factors		Type								Total	
		Paid/Free Nursing Home		Congregate FS		Delivered FS		Others			
Sex	Male	42	(23.1)	77	(42.3)	52	(28.6)	11	(6.0)	182	(31.1)
	Female	106	(26.3)	175	(43.4)	99	(24.6)	23	(5.7)	403	(68.9)
	Total	148	(25.3)	252	(43.1)	151	(25.8)	34	(5.8)	585	(100.0)
Age**	60y - 64y	8	(15.7)	19	(37.3)	21	(41.2)	3	(5.9)	51	(8.9)
	65y - 69y	38	(28.8)	39	(29.5)	49	(37.1)	6	(4.5)	132	(23.0)
	70y - 74y	23	(18.0)	66	(51.6)	36	(28.1)	3	(2.3)	128	(22.3)
	75y - 79y	30	(28.0)	21	(48.6)	14	(13.1)	11	(10.3)	107	(18.6)
	80y - 84y	29	(33.3)	46	(52.9)	8	(9.2)	4	(4.6)	87	(15.2)
	More than 85y	21	(30.4)	28	(40.6)	13	(18.8)	7	(10.1)	69	(12.0)
Total	149	(26.0)	250	(43.6)	141	(24.6)	34	(5.9)	574	(100.0)	
Income Source***	Full - self	25	(20.8)	29	(24.2)	58	(48.3)	8	(6.7)	120	(24.2)
	Partially supported by children	16	(19.8)	34	(42.0)	27	(33.3)	4	(4.9)	81	(16.4)
	Full supported by children	83	(33.3)	104	(41.8)	44	(17.7)	18	(7.2)	249	(50.3)
	Supported by government	5	(15.2)	22	(66.7)	5	(15.2)	1	(3.0)	33	(6.7)
	Others	7	(58.3)	3	(25.0)	2	(16.7)	0.0	(0.0)	12	(2.4)
Total	136	(27.5)	192	(38.8)	136	(27.5)	31	(6.3)	495	(100.0)	
Income level*** (10,000 won)	Less than 100	27	(41.5)	20	(30.8)	9	(13.8)	9	(13.8)	65	(18.7)
	100 - 300	37	(27.6)	58	(43.8)	28	(20.9)	11	(8.2)	134	(38.5)
	350 - 600	7	(17.9)	21	(53.8)	9	(23.1)	2	(5.1)	39	(11.2)
	700 - 900	6	(26.1)	8	(34.8)	8	(34.8)	1	(4.3)	23	(6.6)
	1000 - 1800	14	(25.9)	12	(22.2)	25	(46.3)	3	(5.6)	54	(15.5)
	More than 2000	7	(21.2)	7	(21.2)	18	(54.5)	1	(3.0)	33	(9.5)
Total	98	(28.2)	126	(36.2)	97	(27.9)	27	(7.8)	495	(100.0)	
Regularity of Income	Regular	63	(32.3)	58	(29.7)	57	(29.2)	17	(8.7)	195	(58.4)
	Irregular	31	(22.3)	54	(38.8)	46	(33.1)	8	(5.8)	139	(41.6)
	Total	94	(28.1)	112	(33.5)	103	(30.8)	25	(7.5)	334	(100.0)
Type of family***	Alone	12	(25.0)	24	(50.0)	11	(22.9)	1	(2.1)	48	(8.2)
	With Spouse	20	(19.8)	31	(30.7)	45	(44.6)	5	(5.0)	101	(17.4)
	With family	116	(26.8)	197	(45.5)	94	(21.7)	26	(6.0)	433	(74.4)
	Total	148	(25.4)	252	(43.3)	150	(25.8)	32	(5.5)	582	(100.0)
Occupation	Yes	11	(20.8)	19	(35.8)	20	(37.7)	3	(5.7)	53	(10.1)
	None	126	(26.8)	208	(44.3)	108	(23.0)	28	(6.0)	470	(89.9)
	Total	137	(26.2)	22	(43.4)	128	(24.5)	31	(5.9)	582	(100.0)

multiple response

*** : P < 0.001

* : P < 0.05

The types of possible meal service programs are differentiated by age, monthly income, income level, dwelling situation and the existence of illness. Elderly between the ages of 60~64 and 65~69 showed the most enthusiasm for the home delivered meal service with 41.2% and 37.1% supporting the program, respectively. Elderly of the age groups 70~74, 75~79, 80~84, and 85 and above were found to favor elderly dining halls the most, thereby showing a divergence of views by age group ($p < 0.001$). Militelo and others¹⁰ pointed out that the elderly living with family tend to disfavor dining halls as they grow older, while supporting home-delivery service instead. This is different from the results obtained from our research. It is assumed that the difference arose because of low perception and weak knowledge of the meal service program by the Korean elderly compared to the elderly of the developed countries. Another reason is assumed to be the awkwardness that comes while receiving meals at home, when the elderly are living with family members. 48.3% of the elderly with the ability to sustain themselves with their own monthly income favored home-delivery service, while 41.8% of those that were supported partially or entirely by their children replied that they favored elderly dining halls. 66.7% of those receiving state assistance also replied that they preferred dining halls. This shows that the source of monthly income affects the type of meal service preferred by the elderly ($p < 0.001$). As for the level of income, those with income of over KRW 1,000,000 preferred home-delivery service, while those with income between KRW 700,000~900,000 preferred both home-delivery service and dining halls. Those between KRW 350,000~600,000 and 100,000~300,000 preferred dining halls, while those with income below KRW 100,000 favored meals provided by old peoples homes. The results show different preferences according to different income ($p < 0.001$). Furthermore, elderly living alone or living with family preferred dining halls, in contrast to those living with their spouses, who preferred home-delivery service ($p < 0.001$). Militelo and others¹⁰ claimed that elderly who lived with family tended to disfavor dining halls when assistance from their family decreased, instead leading to an increase in support for home delivered meal service. We can see that this result can connect with our research. Elderly living with only their spouse, without any help from family, show an increasing preference to home delivered meal service. The existence of illness also affected the result and dining halls were the most favored service program ($p < 0.05$). According to research conducted by Roe and other scholars¹³, the home delivered meal service showed great progress in the United States after its introduction in the 1970s and expanding in the 1980s. This paper emphasized that the home-delivery service was influential in reducing hospitalization and

overall dependence on hospitals by the elderly. If we apply this result with our research, we can see that the relatively younger elderly, those with high income, those who are economically independent and those elderly living with their spouses tended to choose home-delivery service as the preferable meal service. It is imperative that home-delivery service and elderly dining halls be further developed to achieve a better organized welfare system for the elderly.

2) Ways to Develop the Elderly Meal Service Program

53.2.0% of the elderly subjects replied in the survey that they would like a meal service program to supplement other elderly welfare facilities. 26.7% replied that they would like the elderly dining hall system to be extended, while 15.4% wanted to expand the home-delivery service (Fig 7). Neyman's report¹⁴, which showed a similar result to our findings, claimed that most of those who utilized the dining halls were low-income elderly, who were marginalized from society. The report called for a better examination of nutritious hazards on the elderly and an expansion of the dining hall system.

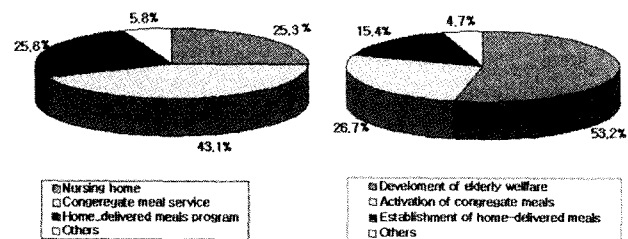


fig 7. Types and focus of elderly meal service program in accordance with their request

As examined by age, all age groups called for an elderly meal service system that could be implemented as a supplement to other elderly welfare systems. For those relatively younger elderly, under the age of 64, and those between 65~69, the home delivered meal service was the next popular option, whereas the over-70 age group preferred meals provided by elderly dining halls, either free-of-charge or paid-for ($p < 0.001$)(Table 9). Examination by source of monthly income or income level showed a similar result. Overall, more than half the respondents replied that they preferred a meal service system as a supplement to other elderly welfare facilities. Elderly who were economically independent or those that received more than KRW 1,000,000 in income favored home-delivered service as the second best option, whereas those who were dependent on their children or the state and those with low income preferred elderly dining halls, either free-of-charge or charged ($p < 0.001$), displaying difference according to economic conditions. Elderly

Table 9. Focus of development for elderly meal service program by living environment factors

Factors		Focus of development								Total	
		Development of elderly welfare		Activation of congregate meal service		Establishment of home - delivered meal service		others			
Sex	Male	113	(57.1)	50	(25.3)	29	(14.6)	6	(3.0)	198	(30.8)
	Female	229	(51.5)	122	(27.4)	70	(15.7)	24	(5.4)	445	(69.2)
	Total	342	(53.2)	172	(26.7)	99	(15.4)	30	(4.7)	643	(100.0)
Age***	less than 64	31	(55.4)	9	(16.1)	14	(25.0)	2	(3.6)	56	(8.9)
	65y - 69y	79	(56.4)	25	(17.9)	31	(22.1)	5	(3.6)	140	(22.2)
	70y - 74y	67	(50.0)	49	(36.6)	16	(11.9)	2	(1.5)	134	(21.2)
	75y - 79y	76	(65.5)	32	(27.6)	7	(6.0)	1	(0.9)	116	(18.4)
	80y - 84y	52	(50.5)	28	(27.2)	13	(12.6)	10	(9.7)	103	(16.3)
	more than 85	39	(47.6)	25	(30.5)	7	(8.5)	11	(13.4)	82	(13.0)
Total	344	(54.5)	168	(26.6)	88	(13.9)	31	(4.9)	631	(100.0)	
Income Source***	Fully - self partially supported by children	69	(53.5)	21	(16.3)	36	(27.9)	3	(2.3)	129	(24.3)
	fully supported by children	41	(46.6)	25	(28.4)	18	(20.5)	4	(4.5)	88	(16.6)
	supported by government	153	(57.3)	79	(29.6)	23	(8.6)	12	(4.5)	267	(50.4)
	Others	19	(57.6)	14	(42.4)	0.0	(0.0)	0.0	(0.0)	33	(6.2)
	Total	9	(69.2)	1	(7.7)	2	(15.4)	1	(7.7)	13	(2.5)
Total	291	(54.9)	140	(26.4)	79	(14.9)	20	(3.8)	530	(100.0)	
Income level** (10,000 won)	less than 10	34	(52.3)	21	(32.2)	5	(7.7)	5	(7.7)	65	(17.5)
	10 - 30	74	(52.1)	45	(31.7)	16	(11.3)	7	(4.9)	42	(38.2)
	35 - 60	21	(51.2)	13	(31.7)	6	(14.6)	1	(2.4)	41	(11.0)
	70 - 90	11	(45.8)	8	(33.3)	5	(20.8)			24	(6.5)
	100 - 180	36	(59.0)	7	(11.5)	17	(27.9)	1	(1.6)	61	(16.4)
	more than 200	20	(51.3)	5	(12.8)	13	(33.3)	1	(2.6)	39	(10.5)
Total	196	(52.7)	99	(26.6)	62	(16.7)	15	(4.0)	372	(100.0)	
Regularity of Income	regular	132	(61.4)	45	(20.9)	34	(15.8)	4	(1.9)	215	(60.7)
	irregular	71	(51.1)	33	(23.7)	29	(20.9)	6	(4.3)	139	(39.3)
	Total	203	(57.3)	78	(22.0)	63	(17.8)	10	(2.8)	354	(100.0)
Type of family**	living alone	20	(39.2)	23	(45.1)	6	(11.8)	2	(3.9)	51	(8.0)
	with spouse	51	(47.2)	31	(28.7)	25	(23.1)	1	(0.9)	108	(17.0)
	with family	268	(56.1)	119	(24.9)	64	(13.4)	27	(5.6)	478	(75.0)
	Total	339	(53.2)	173	(27.2)	95	(14.9)	30	(4.7)	637	(100.0)
Occupation	Yes	39	(66.1)	9	(15.3)	9	(15.3)	2	(3.4)	59	(10.3)
	None	282	(54.9)	143	(27.8)	64	(12.5)	25	(4.9)	514	(89.7)
	Total	321	(56.0)	152	(26.5)	73	(12.7)	27	(4.7)	573	(100.0)
Diseased**	Yes	185	(52.1)	107	(30.1)	43	(12.1)	20	(5.6)	355	(63.3)
	None	116	(56.3)	38	(18.4)	43	(20.9)	9	(4.4)	206	(36.7)
	Total	301	(53.7)	145	(25.8)	86	(15.3)	29	(5.2)	561	(100.0)

multiple response

*** : P < 0.001

* : P < 0.05

living with their spouse or those living with their family tended to favor the meal service program as a supplement to other elderly welfare programs ($p < 0.01$). These results can connect with Roe's research¹⁵⁾, which claimed that groups with high requirement for nutrition prefer home-delivery service. This tendency increases further as the income level becomes lower or there isn't anyone in the family to assist the elderly. Furthermore, Nakura and others¹¹⁾ suggested that the expansion of the home-delivery service was an imminent problem. Most elderly

hoped that the elderly meal service program would work as a supplement to the already existing elderly welfare facilities. But the second best options showed different results in accordance with age, economic conditions, and dwelling conditions. Some preferred home delivered meal service, while others preferred the elderly dining hall program. In the future, each environmental factor should be taken into account in order to develop and supplement a number of diverse systems, rather than applying a uniform system.

SUMMARY AND CONCLUSION

This research analyzed the perception and need for the elderly meal service program according to the living environment and dietary environment of the elderly by interviewing 769 elderly subjects over the age of 60 (226 male, 543 female), who lived with their family. This research tried to understand the type of expectations that these elderly subjects held and figure out ways to develop the meal service program of the elderly. By doing this, this research tried to assess the problems of the current living environment and dietary environment and analyze the perception and degree of need of the elderly. By closely examining the types of expectations of the meal service program, this paper attempted to serve as a basis material for the establishment of a more realistic and systematic elderly meal service program.

1. Average age of elderly subjects was 75.1 ± 8.1 Level of education with highest ratio was elementary school with 21.1% of the total. Only 7.8% of the total number currently had an occupation. The highest ratio of monthly income was KRW 100,000–340,000, with 20.9% of the total, while 10.7% received less than KRW 100,000. 54.5% of the elderly subjects depended on their children for all or some of their income, while only 30.7% of the elderly received their income regularly. This suggests that most elderly suffer from economic difficulties. 7.9% lived alone as a single family, while 15.7% lived with their spouse and 72.2% lived with their family.

2. Examination of dietary conditions indicates that food purchasing was the activity that the elderly least attended to, while the same activity was picked (19.6%) as the activity that the elderly needed the most help with. Analysis of meal dependence through meal management shows that 33.9% of the elderly subjects managed their meal on their own, whereas 47.1% depended on their children. This study showed that dependence on children rose as the elderly grew older ($p < 0.001$), higher rates of dependence on children was noted for low-income and unemployed elderly ($p < 0.001$).

3. Examination of the perception of the meal service program indicated very low perception, with only 18.5% replying that they knew about the program. Males were generally more perceptive to the program than females ($p < 0.01$), and those over the age of 85 showed very low perception ($p < 0.001$). Elderly who were receiving state assistance had higher perception than those who were completely or partially dependent on their children ($p < 0.001$). Low-income elderly with less than KRW 100,000 showed a higher ignorance of the meal service program compared to the other groups ($p < 0.05$). Furthermore, for

those living with their family, only 18.8% replied that they knew about the program, while 33.3% of the those living alone replied the same, underscoring the influence of family and dwelling conditions on the perception of the program ($p < 0.05$). Examination of the perceptive channel reveals that perception through mass media (42.8%) played the biggest role, followed by word-of-mouth by friends and family (21.6%), direct visits (15.5%), direct information by a user of such meal supplying facilities (6.2%). Publicity material came last with 3.1%, which makes the case urgent for the local community units to step up its efforts to develop a more active and organized promotion scheme. Although the elderly who managed their meals on their own showed higher perception than those that completely depended on their children, the difference was negligible. 28.4% of those with less than adequate living expenses answered that they were aware of the program ($p < 0.05$). Furthermore, 38.7% of those that continuously skipped meals due to physical, mental and economic reasons were perceptive of the program ($p < 0.05$). On the other hand, the number of foodstuffs per day or whether or not 3 meals were consumed per day did not affect perception to a great degree.

4. When asked whether the elderly meal service program should be implemented as part of the overall elderly welfare policy, 54.1% of the elderly subject replied that it should, giving explicit support to the elderly meal service program. Degree of need for such a program for the male elderly was high ($p < 0.001$), and the younger elderly were more enthusiastic with the program than the older ($p < 0.01$). Higher income elderly felt a stronger need for the meal service program ($p < 0.01$), and 75% of those elderly currently employed replied that the program should be implemented ($p < 0.05$). 68.8% of those that manage their meals themselves expressed need, while only 50% of those that are entirely dependent on their children or receive assistance from others, replied the same ($p < 0.01$). Furthermore, elderly without adequate funds for groceries showed higher need than those with adequate funds ($p < 0.001$). For those with intake of less than 5 foodstuffs per day, need for the meal service program was greater ($p < 0.0001$). This is different from the results from perception, which suggests that contemporary Korean elderly show very low perception, but very high need for the program.

5. Of all the possible elderly meal programs, elderly dining halls came first place with 45.2%, and home delivered meal service increased its share as a possible future program, although it showed the lowest perception and real experience. The group that favored the home-delivery system included the younger elderly group (under 64 and between 64~69), the elderly who relied on

themselves for their monthly incomes, elderly with higher than KRW 700,000 of monthly income and those elderly living only with their spouses. This implies that a more diverse elderly meal program should be developed that takes into account such factors as age, economic conditions and family conditions.

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