Population Aging and Its Health Implications in Korea*

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In population and health fields, those who have been primarily concerned with lowering fertility and mortality rates are now also considering the issues of aging. The societies that first completed the demographic transition are those that now have the highest proportions of aging population. Though the size of the elderly population is considerably smaller than that of the other population group, the projected speed of relative increase of the elderly population is substantially more rapid. The number of persons aged 65 and over in the world is projected to grow to 828 million in 2025, which is more than 2.5 times as large as its current size(UN, 1992 : 25). In particular, developing countries are aging simultaneously with changing family systems and weakening their care-giving capacity. In this sense, the twenty-first century can be called "the era of population aging."

The aging of the Korean population, until recently, has remained in its early stage, and Korea is expected to enjoy "a golden period" of lower age dependency ratio by the early 2020s. Accordingly, little attention had been focused on the health issues and problems associated with these demographic changes toward aging in Korea. But the changing demographic structure toward aging society will proceed with a relatively high tempo in the next decades (population aged 65 and over: 7% in 2000, 14% in 2025). Therefore, it is stressed that, in the Korean demographic context, "the reserved years" of lower dependency, before population aging becomes a substantial public and private burden, must be fully utilized to formulate effective policies and counter-measures in health and welfare sectors, on which the greatest impacts of aging will fall.

As easily understood, the elderly are faced with unfavorable health conditions of having more health problems and a higher prevalence of chronic diseases(59% in those 60 yrs and

* This is revised version of a paper prepared for "the JOICFP/UNFPA Seminar on Population Aging: Health Promotion and Medical Service for the Elderly," held in Tokyo Japan from 5-16 July 1993.

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over, 21% in those less than 40 yrs). In addition, the use of health services by the elderly has increased more substantially than in the general population, parallel with the expansion of the national medical insurance system. Because the health problems of the aged differ from those of the young people in both service quantities and qualities, health care for the aged requires the policy makers and providers to make additional efforts. In this setting, the need for organized social efforts on health promotion and diseases control has emerged as one of the big issues to be challenged and solved during the Seventh Five-Year National Development Plan period. Consequently, it is clear that the pre-aging society of Korea should take appropriate steps for the concerted actions of the government, communities and families, to provide the best possible measure of support and services to the senior citizens, considering their long-term effects comprehensively. In addition, these process should be carried out on the basis of reconsidering existing health policies and programs through focusing attention on the inter-relationships between the aged and the general population in health service utilization and expenditure.

I. Introduction

As a consequence of the rapid decline in fertility and the mortality improvement in recent years, the dramatic rise in the number and proportion of the elderly population has been drawing world-wide attention. The number of persons aged 65 and over in the world is estimated to be 328 million in 1990. It is projected to grow to 828 million in 2025, which is more than 2.5 times as large as its current size (UN, 1992 : 25). In particular, "the old old", those aged 75 or 80 years and over, is regarded the fastest growing population group in the world. It is projected to grow by a factor of ten between 1950 and 2020 compared with a factor of six for those 60 and over, and a factor of three for the total population. In this demographic context, the twenty-first century will be characterized by the aging of the global population, and the greatest impacts of aging will fall upon the health and welfare sectors. Policy making to prepare for aging, therefore, will present a major challenge to achieve a balanced health and socioeconomic development in the coming decades (UN, 1991:3).

However, until recently, little attention had been focused on the health issues and problems associated with these demographic changes toward aging in Korea. Physical functions and socioeconomic activities of human beings decline gradually with advancing age. Probably because the health problems of the aged differ from those of the younger age group in both service quantities and qualities, health care for the aged requires additional efforts to the policy makers and providers (Han, 1989).

Even though persons aged 65 and over repre-

sented only 5% of the total Korean population in 1990, it is projected to be 2.5 times larger by the year 2020(National Statistical Office, 1991). The projected speed of relative increase of the elderly population is substantially more rapid than that of the any other population groups. From this point of view, the aging tendency of the population and its health implications are discussed so as to provide a basis for anticipating changes in the health needs of the population.

II. Demographic Transition and Aging

A. Demographic transition and aging in Asian countries

Demographic transition means a shift from high to low levels of fertility and mortality. Asia has been the most successful region of the world in reducing its fertility. Asian countries have long been in the forefront with regard to recognizing the importance of controlling the population growth rate for socioeconomic development, which is in turn likely to influence demographic variables. Fertility decline has the immediate effect of reducing the proportion of young people in the population and raising the proportion of older persons. The countries of Asia, as a result, will be the first among currently less developed nations to have to accomodate aging population (Martin, 1988, cited from Kuroda, 1992 : 1). In the global context, Asia is a region where special attention should be focused on population aging, though the pattern of population aging varies considerably in terms of level and speed.

Table 1. Demographic transition index of several countries in Asia

Country	TFR (1990~'95)	Life expectancy (e_o, 1990~'95)	Demographic transition index
India	4.1	60	0.56
Philippines	3.9	65	0.65
Indonesia	3.1	63	0.69
Malaysia	3.5	71	0.76
Thailand	2.2	67	0.83
China	2.3	71	0.87
Korea	1.7	71	0.89
Singapore	1.8	74	0.95
Australia	1.8	77	0.98
Hong Kong	1.4	78	0.99
Japan	1.7	79	1.00

Notes : 1) Demographic transition index is calculated according to the following formula, D.T. index=0.5[(7.6–TFR)/5.5]+0.5[1−(79–e_o)/36]

2) The maximum TFR was assumed to be 7.6(Yeman, highest in Asia) and the minimum 2.1(replacement level). To standardize the value, difference (7.6–TFR) was divided by the maximum possible change, 5.5. Maximum and minimum life expectancy were calculated using the maximum, 79 (Japan, longest in Asia), and minimum, 43(Afghanistan, shortest in Asia). Again to standardize the value, the difference(79–e_o) was divided by the maximum possible change, 36.

Source : UNFPA, *The state of world population, 1992.*

A successful demographic transition process changes the age structure of a population from a young to an old age-distribution, owing to declines in fertility and mortality. It should be noted that the demographic transition process varies considerably according to different country-specific conditions of economic growth and population control programs. A demographic transition index of some countries in Asian region is presented in Table 1 and Fig 1.

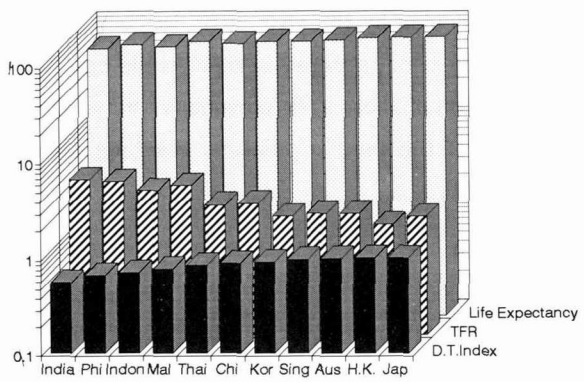

Fig 1. Demographic Transition in Asia

Progress of demographic transition is quite diverse from country to country. Some countries have completed the transition process or are very close to completion, their D.T. index values are 1 or close to 1. These countries are Japan, Singapore, and Hong Kong, followed by Korea and China, which has index values ranging from 0.87 to 0.89.

In view of changes in age structure, population aging has to be considered in the context of age dependency ratios, which indicate the nature of the relationship between the dependent population and the productive age population. Table 2 shows the age dependency ratio and the proportion of the elderly population in selected countries. It is interesting to see that the age dependency ratio is expected to be low in a few decades in Korea and China, which have nearly completed demographic transition through rapid declines in fertility. This trend of lower age dependency started in 1990.

Table 2. Age dependency ratio and elderly population in selected countries in Asia

Year	Korea	Japan	China	Indonesia	Thailand	Malaysia
			〈Age dependency ratio〉			
1980	60.7	48.4	67.2	79.7	77.1	75.4
1990	44.6	43.5	47.7	65.6	57.6	72.0
2000	38.9	47.3	50.3	57.1	46.0	62.7
2020	39.9	68.5	42.1	44.6	43.9	44.8
			〈Percentage of population aged 65 and over〉			
1980	3.7	9.1	4.7	3.3	3.5	3.7
1990	5.0	12.0	5.8	3.9	3.9	3.7
2000	6.8	16.9	7.0	5.1	5.0	4.2
2020	12.5	25.2	11.3	7.8	8.4	7.3

Source : 1) UN, *World population prospects*, 1990.

2) National Statistical Office, *Population projection in Korea: 1990~2021*, 1991.

It is very important to recognize the fact that the more rapid the fertility decline, the longer the period of very low age dependency ratio. A very low dependency ratio could be a greatly advantageous factor to accelerate economic growth. Singapore and Korea are expected to enjoy a long period of low age dependency ratio below 50, 30 years from 1985 to 2015 in Singapore and 25 years from 2000 to 2025 in Korea. It should be stressed that maximum utilization of "these reserved years" in order to cope in advance with coming heavily aged society must be considered along with development plans (Kuroda, 1991 : 7~9).

B. General profile of Korean population and international comparison

The total number of those 65 years and over was 2,161,000 in 1990, according to the 1990 Population Census in Korea (Table 3). In international comparison on aging patterns of population, the proportion of the elderly in the Korean population is still low when compared with those in other developed countries. But the number of those 65 years and over is projected to almost double by the year 2010. In 2020, when the Baby-boom generation reaches old age, the proportion of those aged persons is estimated at 12.5% of the total population, reaching about 6,322,000.

Table 3. Estimation of population in Korea : 1990~2020

	1990	1995	2000	2005	2010	2015	2020
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
(N)[1]	(43,390)	(44,851)	(46,789)	(48,434)	(49,683)	(50,346)	(50,578)
Age structure							
0~14	25.6	23.2	21.2	20.3	19.1	17.5	16.0
15~39	47.5	46.6	43.9	40.2	37.2	34.5	32.9
40~64	21.9	24.5	28.1	31.3	34.3	37.3	38.6
65^+	5.0	5.7	6.8	8.2	9.4	10.7	12.5
Elderly dependency ratio[2]	7.2	8.0	9.4	11.4	13.1	15.0	17.5
Index of aging[3]	19.4	24.5	31.9	40.2	49.1	61.5	78.2
Crude birth rate	15.5	15.2	14.2	12.7	11.3	10.1	10.0
Crude death rate	6.0	5.9	6.1	6.5	7.2	8.2	9.8[4]
Life expectancy at birth (in yrs)	71.3	—	74.3	—	—	—	77.0[4]

Note : 1) 1,000 persons
2) Population aged 65^+/Pop aged 15 to 64×100
3) Population aged 65^+/Pop aged 0 to 14×100
4) As of the year 2021

Source : 1) National Statistical Office, *Population projection in Korea: 1990~2021*, 1991.
2) _____, *Social indicators in Korea*, 1992(a), pp. 64~65.
3) _____, *1990 Population and housing census report*, Vol. 1, 1992(b), pp. 64~65.

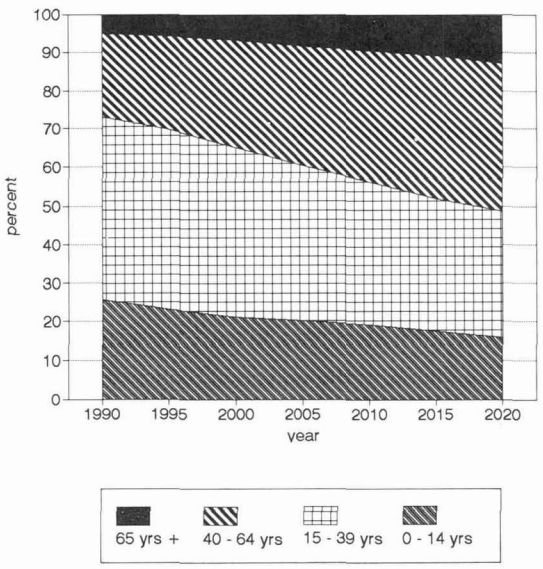

Fig 2. Changes in age composition in Korea

In addition, the elderly dependency ratio which means the ratio of population aged 65 and over to population aged 15 to 64, is expected to reach at 17.5 in 2020 from 7.2 in 1990. The index of aging will also be increased to 78.2 in 2020, while it was 19.4 in 1990. Thus, the universal aging of population makes it crucial to anticipate future needs and to take appropriate action in health and other related areas.

Compared with Western countries, which are already advanced in the aging process, the aging of Korean population will proceed rapidly in terms of years needed for the proportion of aged population to increase from 7 percent to 14 percent[1](Table 4 & 5).

Table 4. The proportion of population aged 65 and over to the total population

	1986	2000	2020
Korea	4.4	6.8	12.5
Japan	10.6	17.0	25.5
U.S.A	12.1	12.8	17.5
U.K.	15.3	15.2	18.2
France	13.1	15.4	19.3
Sweden	18.1	17.1	21.8

Source : 1) UN, *Demographic Yearbook.*
___, World population prospects: 1990.
2) National Statistical Office, *Population projection in Korea : 1990~2021*, 1991.

Table 5. International comparison on the changing tempo of population aging in selected countries

Country	Year when the ratio of population aged 65+ reachs		Years taken
	7%	14%	
Korea	2000	2025	25
Japan	1970	1995	25
U.S.A	1945	2015	70
U.K.	1930	1975	45
France	1865	1995	130
Sweden	1890	1975	85

Source : Institute of Population Problems in Japan, *Collection of demographic statistical data*, 1986.

1) In general, the aging society begins when the proportion of population aged 65 years and over reachs at 7%, while the aged society begins when the proportion reachs at 14%.

C. Urban vs. rural differences in Korean population

Unequal distribution of the aged between urban and rural areas is one of the distinct characteristics of the population structure in Korea. According to the 1990 Population Census, the proprotion of persons aged 65 and over is considerably higher in rural areas(6.5~10.3 %) than in urban ones(3.6%). Such trend is consistent with the elderly dependency ratio and index of aging in Table 6.

In June 1993, the National Statistical Office reported that, among the total households, the proportion of households with the elderly(persons aged 60 and over) is 23 percent. Of the elderly household, the households of elderly couples only or single-person aged 60 and over represented 24 percent. For example, the distribution of the single-person households which account for 10.6 percent of the elderly households, shows unequal proportion between urban and rural areas. This type of household accounts for 7.7 percent of the total elderly households in urban areas, while it is 14.7 percent in rural areas(Chosun Daily Newspaper, June 17, 1993). In particular, changing pattern of family types is accompanied by shortening of family formation and extention phases(14.7 and 3.1yrs in 1945~'54 and 1975~'84 marriage cohorts, respectively), and lengthening of completed contraction and dissolution phases(5.4 and 22.2yrs in 1945~'54 and 1975~'84 marriage cohorts, respectively), called the empty nest and widowhood period(Park, 1990:44). Though, the family is still the principal source of support for the elderly, it is commonly observed in many Asian countries that the nature and types of the family and household are rapidly changing with industrialization, urbanization and increasing tendency of women's labor-force participation. Therefore, urban vs. rural differences in population and family structure should be taken into account appropriately in developing health and other welfare strategies toward the aging society, in addition to the universal tendency of family change. In view of the increasing number of older people who have to be looked after by decreasing young in future, the development of diversified social support system, such as in-home care support centers and integrating welfare and health services to improve the quality of life in later years, will become even more necessary.

Table 6. Urban vs. rural differences of population structure in Korea : 1990

	Total	Urban	Rural	
			Eup area	Myon area
Total	100.0	100.0	100.0	100.0
(N)[1]	(43,390)	(32,290)	(3,602)	(7,498)
Age structure				
0~14	25.6	26.3	25.9	22.5
15~39	47.5	50.0	44.6	38.0
40~64	21.9	20.1	23.0	29.2
65+	5.0	3.6	6.5	10.3
Elderly dependency ratio	7.2	5.1	10.4	15.3
Index of aging	19.4	13.6	25.1	45.5

Note : 1) 1,000 persons

Source : National Statistical Office. *Op. cit.*, 1992(b), pp. 32~39.

III. Health Issues of the Aged

A. Disease patterns and significant causes of death

In general, it can be easily understood that the aged have more health needs than the other age groups. To make it clear, several study results are shown in the following. The results of the 1992 National Health Interview Survey (NHIS) indicate that disease prevalence rate of the persons aged 60 and over is about 2.4 times higher than that of the persons aged below 40 (Table 7). In this survey, the disease prevalence rate is computed from the data on health conditions of the respondents during the last 15 days prior to survey through interviewing.

Table 7. Disease prevalence rate by age: Results of the 1992 NHIS

(per 1,000 persons)

Characteristics	All ages	0~39	40~49	50~59	60+
Disease prevalence rate[1]	316	247	356	503	581
(No of respondents)	(22,169)	(15,271)	(2,668)	(2,183)	(2,047)
Disease-specific prevalence rate[2]					
Endocrine, nutritional and metabolic diseases and immunity disorders	7.8	1.6	8.2	32.1	27.8
Diseases of the nervous system and sense organs	25.7	15.1	27.4	54.5	72.3
Diseases of the circulatory system	22.8	5.2	33.7	63.7	95.3
Diseases of the respiratory system	124.6	134.6	88.8	96.7	125.5
Diseases of the digestive system	66.8	44.1	119.6	124.6	105.0
Diseases of the musculoskeletal system and connective tissue	69.6	14.9	100.1	212.6	286.3
Injury and poisoning	23.1	17.6	20.6	43.5	44.9
Others	64.4	49.9	82.1	102.2	111.9

Note : 1) Person based

2) Spell based

Source : K. Y. Song et al., *The 1992 national health interview survey : Morbidity and utilization of health services*, Korea Institute for Health and Social Affairs, 1993.

The diseases pattern of the aged shows the higher prevalence of diseases such as musculoskeletal system and connective tissue(286 per 1,000 persons), respiratory system(126), digestive system(105), and circulatory system(95). Diseases of musculoskeletal system and connective tissue, circulatory system, and endocrine and metabolic system are especially frequent with growing old. Thus the prevalence of those diseases is 17~19 times higher in older persons than in the population aged below 40. Therefore, it could be said that the quantity of health

needs are considerably higher in the elderly than in the general population.

The prevalence of chronic conditions measured from the question of "whether he/she was in ill-health that lasted three months and over, or frequently recurred during the previous one year," was 21 percent in the general population, while it was 59 percent in the persons aged 60 and over(Song et al., 1993:23). In addition, a survey report on the elderly conducted in 1989 presented that 49 percent of the elderly were suffering from at least one episode of diabetis, hypertension, arthritis, asthma and cataract (Lee et al., 1989). Results of another survey on the elderly in the city of Seoul reported that 19 percent of the study population had acute diseases, while 39 percent had chronic diseases (Cho et al., 1988). Thus, it is assumed that about two thirds of the elderly are in chronic conditions generally(Kim, 1980 ; Han, 1986).

From the prevalent chronic conditions among the aged, it is undoubtedly regarded that restrictions/inconvenience in daily activities emerged as one of the main health problems in old age. The results of the 1992 NHIS reported that the proportion of persons restricted in daily living due to illness among the ill persons is 2~3 times higher in persons aged 60 and over, than in general population (Table 8). Thus the degree of inability associated with ill health in the elderly is regarded as more serious than in the general population.

Table 8. Restriction in daily living due to illness: Result of the 1992 NHIS

(per 100 person in illness)

	Total	Days restricted			
		0	1~3	4~9	10^+
Stay in bed					
All ages	100.0	83.3	10.3	3.4	3.0
60^+	100.0	79.1	6.7	4.7	9.5
Daily activities restricted					
All ages	100.0	81.0	9.8	4.6	4.6
60^+	100.0	75.6	5.5	5.0	9.8

Source : K.Y. Song et al., *Op. cit.*, 1993, pp. 187~188.

The cause of death statistics in 1991 shows that the significant causes are malignant neoplasm(105 per 100,000 persons), cerebrovascular disease(73), accidental injuries(72), heart diseases(50), and hypertensive diseases(30) in the general population(Table 9). With the elderly, the leading causes of death are malignant neoplasm(566) and cerebrovascular disease(358) in persons aged 60~69 and cerebrovascular disease(1,387) and malignant neoplasm(906) in persons aged 70 and over.

From these facts, it could be suggested that the health services for the elderly be distinguished from for the younger population. The aged tend to have a higher demand for health services and, also need long-term care and nursing after receiving appropriate medical services because of their chronic conditions.

Table 9. Major causes of death by age : 1991

(per 100,000 persons)

	Major causes of death				
	1st	2nd	3rd	4th	5th
All ages	Malignant neoplasm (105.3)	Cerebrovascular diseases (72.6)	Accidental[1] injuries (72.2)	Heart diseases (49.5)	Hypertensive diseases (29.9)
60~69	Malignant neoplasm (566.0)	Cerebrovascular diseases (357.8)	Heart diseases (175.6)	Hypertensive diseases (143.6)	Accidental injuries (122.4)
70+	Cerebrovascular diseases (1,387.1)	Malignant neoplasm (906.3)	Heart diseases (881.3)	Hypertensive diseases (532.2)	Accidental injuries (246.4)

Note : 1) Excludes suicide and homicide

Source : National Statistical Office, *1991 Annual report on the cause of death statistics : Based on vital registration*, 1992(c), p.30.

B. Use of health services

The utilization patterns of health services in the elderly are reviewed from the various sources of data such as the Social Indicators produced by the National Statistical Office, Annual Statistics of the National Medical Insurance, and the 1992 NHIS.

Table 10 shows the increasing trends of the insured population in Korea. During the period 1987~1991, the proportion of insured persons aged 65 and over increased from 42.3 percent to 93.4 percent, while in the general population,

Table 10. Population coverage of the national medical insurance programs : 1987~1991

Unit : 1,000 persons

	1987	1988	1989	1990	1991
		〈All ages〉			
No. of total population	41,575	41,975	42,380	42,793	43,268
No. of the insured[1]	19,335	28,637	39,922	40,180	40,799
Population coverage(%)	46.5	68.2	94.2	93.9	94.3
		〈65+〉			
No. of total population	1,876	1,962	2,053	2,144	2,212
No. of the insured[1]	793	1,403	1,836	1,957	2,067
Population coverage(%)	42.3	71.5	84.9	91.3	93.4

Note : 1) These are beneficiaries of the national medical insurance programs for government employees, private school teachers, self-employed, and occupational medical insurance.

Source : 1) National Federation of Medical Insurance, *Medical insurance statistical yearbook 1987~1991*, 1988~92.

2) National Statistical Office, *Op, cit.*, 1992(a), p.74.

the proportion changed from 46.5 percent to 94.3 percent, parallel with the expansion of the national medical insurance system. The remaining 6~7 percent of the population is covered by the government-assisted Medical Aid Program. Table 11 indicates the increase in physician visitors by age groups. During the period 1986~1992, the physician visitors increased 2.1~2.3 times in the aged, while 1.7 times in the general population. Table 12 shows the annual increase in medical treatments among the insured persons. During the period 1989~1990, in-patient care increased 38 percent in the general, while 24 percent increase in the aged. But the increasing tempo of in-patient care is more substantial in the aged during the period 1990~1991, and such trend is consistent with ambulatory services, too. In the elderly population, the use of in-patient services is more than two times higher than in the general population every year respectively.

Overall, the use of health services by the elderly has increased more substantially than in the general population. It could be said that, due to the economic constraints, the health needs of the elderly had not been fully met before the ex-

Table 11. Utilization of medical services by age : 1986~1992

	1986	1989	1992
No. of physician visitors (per 1,000 persons)			
All ages	57.5(100)	80.9(141)	97.1(169)
60~64	62.1(100)	107.1(172)	144.2(232)
65+	65.9(100)	107.5(163)	140.8(214)

Source : National Statistical Office, *Op, cit.*, 1992(a), p.235

Table 12. Annual trends of medical treatments[1] among the insured : 1989~1991

Year	In-patient		Out-patient	
	No. of stays[2]	Annual change	No. of visits[2]	Annual change
		〈All ages〉		
1989	0.45		5.29	
		37.8%		34.2%
1990	0.62		7.10	
		3.2%		-2.1%
1991	0.64		6.95	
		〈65+〉		
1989	1.07		6.42	
		24.3%		25.4%
1990	1.33		8.05	
		9.8%		1.2%
1991	1.46		8.15	

Note : 1) The usage of medications from drug store and herbal clinic is excluded from the statistics.
2) Per person per year

Source : National Federation of Medical Insurance, *Op, cit.*, 1990~1992.

pansion of the national insurance program in 1989. Therefore, the increasing tempo of health services utilization will be more substantial in older age groups than in younger ones. In addition, the results of the 1992 NHIS revealed that the aged utilized all kinds of health facilities including herb doctor's clinics and pharmarcies more frequently. For example, the hospital admission rate indicates 83 in 1,000 persons aged 60 and over, while 57 in the general population(Table 13).

Table 14 compares differentials in per capita medical expenses of the insured persons between the aged and the general populations. In the general population, per capita medical expenses increased 47 percent during the period 1989~1990, while 7 percent during the period 1990~1991. For the aged, the medical expenses increased 37 percent in 1989~1990, while 14 percent in 1990~1991. When compared the increasing trend of medical expenses between the two population groups, it could be said that the increase becomes more substantial in the aged. In addition, during the corresponding period, per capita medical expenses of the elderly were about 1.7~1.8 times higher than those of general population.

Therefore, it could be suggested that the use of health services in the elderly is significantly higher than in other age groups in both utilization rate and per capita medical expenses. It seems to be caused by the medical practices of the elderly which are characterized by more expensive cost per treatment day and longer treatment days per case, when compared with those of others.[2] Also, as widely acknowledged, these

Table 13. The use of health services by age : Result of the 1992 NHIS

	All ages	60+
Annual number of visits to health care facilities		
Total	14.4	22.4
Hospital, Private clinic	8.4	11.6
Dental clinic	0.4	0.3
Herb doctor's clinic	0.7	1.8
Health center, CHP's post	0.5	2.1
Pharmacy	4.4	6.6
Hospital admission rate (per 1,000 persons)	57.4	82.6
Stay in hospital (days per patient)	18.5	23.3

Source : K.Y. Song et al., *Op. cit.*, 1993.

2) According to the medical insurance statistics, in in-patients care, days for hospital stay per case are 12.9 in persons aged 65 and over, while 9.9 in the general population. In ambulatory care, days for physician visits per case are 2.4 in persons aged 65 and over, while 2.2 in the general population. In addition, daily expenses in in-patient services amount to 47,200 Wons in persons aged 65 and over, while 44,100 Wons in the general population, and medical expenses per physician visit in out-patient services amount to 8,700 and 7,100 Wons in two the population groups, respectively(National Federation of Medical Insurance, *Op. cit.*, Vol 14, 1992, pp. 264~267).

are closely associated with the most striking feature of disease patterns in the elderly. Not surprisingly, persent-day tendencies on issues and problems of health for the aged will be accelerated with increase in the absolute and proportional number of the elderly in the population in the future. Indeed, the most appropriate action for enhancing rationalization of health services as a whole, will be a reconsideration of existing health policies and programs through focusing attention on the interrelationships between the aged and the general population in health service utilization and expenditure.

Table 14. Trends of per capita medical expenses among the insured : 1989~1991

unit : Won

	1989		1990		1991
		⟨All ages⟩			
Medical expense(per capita)	49,529		72,667		77,871
Annual change		46.7%		7.2%	
		⟨65+⟩			
Medical expense(per capita)	89,350		122,219		138,799
Annual change		36.8%		13.6%	

Source : National Federation of Medical Insurance, *Op. cit.*, 1990~1992.

Ⅳ. Conclusion

The aging of Korean population, until recently, has remained in its early stage, and Korea is expected to enjoy "a golden period" of lower age dependency ratio by the early 2020s. Accordingly, little attention had been focused on the health issues and problems associated with these demographic changes toward aging in Korea. But the changing demographic structure toward aging society will proceed with a relatively high tempo in the next decades(population aged 65 and over : 7% in 2000, 14% in 2025). Therefore it is stressed that, "the reserved years" of lower dependency, before population aging becomes a substantial public and private burden in Korean demographic context, must be fully utilized to formulate effective policies and counter-measures in health and welfare sectors, on which the greatest impacts of aging will fall.

As easily understood, the aging of population inevitably means the increase of patients, and the elderly are faced with unfavorable health conditions of having more health problems and a higher prevalence of chronic diseases(59% in those 60 yrs and over, 21% in those less than 40 yrs). In addition, the use of health services by the elderly has increased more substantially than in the general population, in both utilization rate and per capita medical expenses, parallel with the expansion of national medical insurance system. It seems to be caused by the medical practices of the elderly which are characterized by more expensive cost per treatment day and longer treatment days per case, when

compared with those of others. Thus, the health problems of the aged differ from those of the young people in both service quantities and qualities, and health care for the aged requires additional efforts to policy makers and providers. In other words, health services for the elderly need appropriate medical care and long-term nursing which are suitable for their health conditions. But the health and well-being of the elderly are not easily separated from their economic and social conditions. Due to the economic constraints of the aged, the medical expenses for the aged will be a burden to family and society as a whole.

To face with these problems, it is probably necessary that health policies will need to be planned and implemented with special emphasis on the reasonable resource allocation, efficient utilization and enhancing equity in medical practice and health care delivery generally. In this connection, the need for organized social efforts on chronic diseases control has emerged as one of the big issues to be challenged and solved in the health sector during the period of Seventh Five-Year National Economic and Social Development Plan(1992~1966). Accordingly, it is essential that the pre-aging Korean society should develop nation-wide disease control and health promotion programs which include population groups from the middle age considering their long-term effects by utilizing the existing health center networks. Further, the health care needs of the aged will not easily be met by the current medical and hospital organization providing mainly curative services. It is important that appropriate health facilities providing comprehensive services from primary to long-term care, should be established on the basis of effective management of the national health systems by minimizing inefficiencies in the health resources utilization and stabilizating the national medical cost at a more manageable level. Related with such directions, it is clear that the pre-aging society should expand community-based integrated health and welfare support system, including in-home care support centers and diversified institutional care of short-stay and day services to support their livelihood, along with lengthening of the latter phases in the family life cycle.

Though we will face aging society in the near future, the nature of health issues and problems does not seem to be essentially different from that at present. As mentioned earlier, an additional health theme will be raised to meet the health needs of the considerably high proportion of old persons who are on the whole in unfavorable socioeconomic situations. To cope with these health problems of the aging population, it is important that the general principles of health management aiming to enhance efficiency and equity in health services and to pursue proportionate social development, should be observed in developing health strategies and implementing relevant programs.

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《국문초록》

인구의 고령화와 보건부문의 과제

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21세기 세계인구는 고령화라는 특징을 띌 것으로 전망된다. 그러나 한국사회는 아직 「고령화 이전단계」(pre-aging society)에 속하고 있으며, 2000년이 되어서야 비로소 65세 이상 인구 비율이 7% 수준에 이르게 될 것이다. 즉 우리나라에서는 그간의 급속한 출산력 저하로 인하여, 1990년대 초반부터 시작하여 2020년대 초반까지는 소위 인구부양비 50 이하의 부양부담이 낮은 기간이 지속됨으로써 인구구조적 황금기(golden period)를 누릴 것으로 예상된다. 그러나 인구의 고령화 속도는 2000년대에 들어서면 비교적 빠르게 진행될 전망이다. 따라서 이러한 부담을 민감하게 받게될 보건 및 복지분야에서는 향후 약 30년간의 인구학적 유예기간(reserved years)을 충분히 활용하여 적절한 정책대안을 개발함으로써, 앞으로 다가올 고령화 및 초고령화 사회에 효율적으로 대비해야 할 것이다.

이러한 취지에서 보건부문을 고찰해 보면, 노인들은 타연령층에 비하여 특히 만성질환 이환율이 높다는 등 건강상 매우 취약하고 불리한 여건에 처해 있으며, 고령층의 의료이용은 타연령층에 비하여 더 빠른 속도로 증가하고 있음을 볼 수 있다. 또한 일반인구와 비교할 때, 노인의료비는 일당 진료비가 높을 뿐 아니라, 건당 진료일수 역시 길다는 특성을 띄고 있다. 그러므로 노인을 위한 보건의료 서비스는 양적 질적으로 타연령층과 구분되어야 하며, 정책입안 및 보건의료 공급측면에서 특별한 노력이 요구된다.

즉 건강증진 및 질병예방을 위한 사회적이고 조직적인 노력의 필요성이 강조되고 있는 오늘날, 보건부문에서는 고령화 사회에 대비하여 공공부문을 중심으로 예방적이고 건강 증진적 보건활동에 초점을 맞추어, 중년기부터 적절한 건강관리 프로그램이 시행될 수 있도록 해야 할 것이다. 그리고 고령인구의 보건의료요구는 현행의 진료위주 의료공급조직으로는 쉽게 충족될 수 없는 특성을 감안할 때, 보건의료 이용 및 비용전반에 걸쳐 고령층과 타연령층 간의 상호관계를 고려하면서, 기존의 보건정책과 사업활동을 재검토하고, 1차 보건의료에서 장기요양에 이르기까지 다양한 서비스를 제공하는 보건복지시설의 도입을 구상해 나아가야 할 것이다.

정책이란 일단 입안되면, 장기간에 걸쳐 영향을 미칠 뿐 아니라, 문제를 야기할 경우 이를 즉각적으로 시정하기가 어렵다는 점을 고려할 때, 노인의 의료이용 및 비용 급증이 향후 우리나라의 보건의료 재정에 커다란 부담을 안겨주는 방향으로 나아가지 않도록, 고령화 사회로 진입하기 이전단계인 지금부터, 적절한 보건정책이 포괄적이고 장기적 관점에서 수립되어야 함은 말할 나위가 없다.

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