

Korean Aspect of the Medical Problems of the Aged*

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INTRODUCTION

As the result of a significant improvement in the economic situation and development of scientific techniques in Korea during the last 20 years, the life expectancy of the Korean people has lengthened considerably and as a result the number of old aged people has markedly increased.

Such an increase of the number of aged people brought about many social, economic, and medical problems which were never seriously considered before.

I would like to take a medical look at the "problems of old aged people" presently facing us in Korea.

Korean aspect of the elderly problem

1 Demographic features

In early 1960's life expectancy of a Korean man was 53.6 and a woman was 56.9. However, it had increased to 62.7 and 69.1 for a man and woman respectively by 1980.¹⁾

Currently the number of people over 65 is 1,620,000, - 4% of total population. (Table 1)¹⁾

The percentage of old aged people among the Korean population is similar to that of other de-

Table 1 Trend of increase in the number of the elderly

unit: $\times 10^3$

Class \ Year	1960	1966	1970	1975	1980	1984
Population	24,989	29,160	31,435	34,679	37,448	40,577
Number of old people						
over 60	1,383 (5.5)	2,511 (5.3)	1,705 (5.5)	1,544 (5.6)	2,321 (6.2)	2,617 (6.4)
over 65	844 (3.4)	960 (3.3)	1,040 (3.4)	1,260 (3.5)	1,460 (3.9)	1,622 (4.0)
over 70	465 (1.9)	523 (1.8)	605 (1.8)	663 (1.9)	909 (2.5)	930 (2.3)

cf. The figures in parentheses indicate the percentage of the elderly. Source: The Economic Planning Board.

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veloping countries, but is still much lower than the figure for developed countries. (Fig.1)²⁾

Composition of old aged people over 65 among entire populatpn is 8.9% in Japan, 10.7% in U. S. A., and 14.9% in the United Kingdom, all of which are much higher than ours.

The old age dependency ratio is 16.1 in U. S. A, 13.1 in Japan and 6.2 in Korea. (Table 2)²⁾

2 General characteristics of the diseases affecting the aged in Korea

According to a medical survey of the aged conducted in 1983, 40% of the aged were found to be in ill health³⁾ (Table 3) Kim's survey in 1976 of inhabitants over 60 living in small rural areas concluded that more than 38% of them

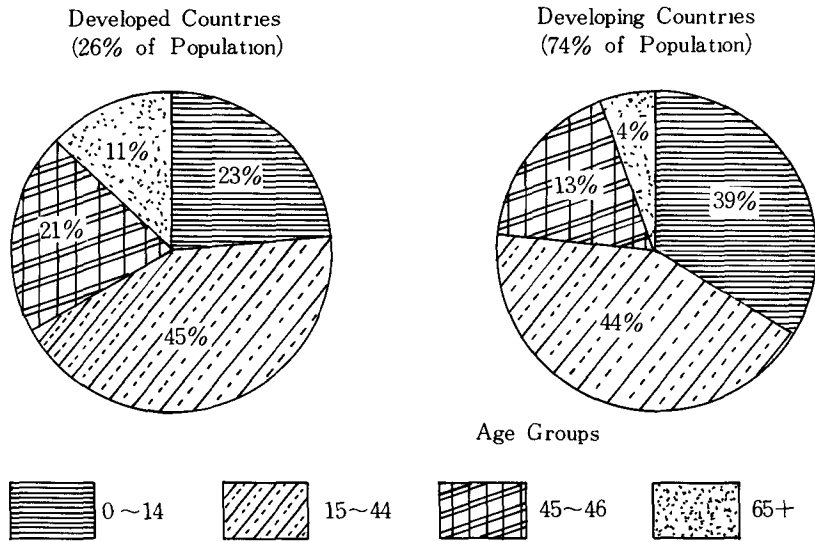


Fig. 1. Estimated Age Composition of Population, 1980.

Source: WHO; Graphic Section, Figure 2, World Health Statistics Annual, 1983.

Table 2. Age composition of population, dependency ratio 1980.

Country	Age composition of population (%)		Dependency ratio		
	0~14	65+	Total	Young	Old
U. S. A.	22.9	10.7	50.6	34.5	16.1
China	33.6	5.6	64.5	55.3	9.2
Japan	23.4	8.9	47.7	34.6	13.1
Korea	33.8	3.9	60.5	54.9	6.2

Source: UN, World Statistics in Brief, 6th Edition, 1981

Note: Total Dependency ratio = $\frac{0 \sim 14 \text{ years} + \text{over } 65}{\text{population of } 15 \sim 64} \times 100$

Young Dependency ratio = $\frac{\text{population of } 0 \sim 14}{\text{population of } 15 \sim 64} \times 100$

Old Dependency ratio = $\frac{\text{over } 65}{\text{population of } 15 \sim 64} \times 100$

Table 3. Analysis of medical examination in 1983.

Class	No. of examination	unt:person	
		Healthy	In ill health
Total	186,743	112,386 (60%)	74,375 (40%)
Medical care beneficiaries	108,186	65,647	42,539
Non-beneficiaries	78,557	46,721	31,836

Table 4 Morbidity rate of the chronic disease among in-patients of over 60 years of age

Disease Types	Male		Female	
	Cases	Rate	Cases	Rate
Malignant neoplasm	78	9.8	47	4.1
Cerebrovascular disease	30	3.8	33	2.9
Hypertension	26	3.3	21	1.8
Diabetes mellitus	17	2.1	28	2.4
Heart disease	18	2.3	20	1.7
Liver cirrhosis	17	2.1	11	1.0
Chronic Gastritis	1	0.1	4	0.3

Source: Moon Ok, et. al.: Survey on the status of adult diseases, 1980.

may require further medical evaluation or treatment.⁴⁾ A study from the Korean research institute for the aged reported that more than 24.5% of the aged over 65 claimed that they were in ill health and needed medical attention.⁵⁾ According to this study, there was no significant difference in disease prevalence between urban and country residents.

The morbidity rates (per 100,000) based on a survey conducted in 1980 covering 78% of the hospitals throughout the nation are shown on Table 4.⁶⁾ Although those over 60 represented 28.8% of the total number of in-patients, we believe the actual number of the aged suffering from various diseases is higher due to a number of people who could not be admitted for financial reasons.

The feature of disease trends and causes of deaths in Korean have changed remarkably during the last 30 years. In 1950, the most frequent cause of death was by infectious diseases, but by 1980, degenerative diseases were

responsible for more than 70~80% of deaths.²⁾ Neoplasms and diseases of circulatory systems comprise more than 50% of the causes of death for the aged over 55. (Table 5) Since diseases affecting the aged are mostly on-going chronic illnesses, prevention and long term care plans are of primary importance.

The morbidity rate per 1,000 was 1.3~2.2 times higher⁷⁾ than the national average for both males and females over 60.

Distribution of diseases affecting the aged are shown on Table 6.

Diseases occur in the circulatory system, 30.9%, respiratory system, 17.1%, digestive system, 8.6%, mental disorders, 8.4%, malignant neoplasms, 7.0%, arthritis-rheumatism, 4.9%, diabetes, 2.0%, and urinary disorders, 1.1%.⁶⁾

Disease patterns for aged Koreans are similar to patterns for aged Americans except for several small differences.

Neoplasms affect Koreans in a radically different fashion than Americans.⁸⁾ Stomach (23.5

%), Uterine cervix (16.0%), liver (9.6%), and lung (8.0%) are most frequently involved in that order. Colorectal cancer frequently seen in Americans ranks 5th with 5.9%. For men the 5 most frequent types of cancer were; gastric, hepatic, pulmonary, colorectal, and hematopoietic in that order. For women; uterine cervix, stomach, breast, hepatic, and thyroid. For American male counterparts, the corresponding

cancers were; pulmonary, prostatic, colorectal, and female; breast, colorectal, uterine. (Fig. 2)

The prevalence rate of hypertension among the aged over 65 in Korea was 22~44%, much higher than the figure of 10% for the rest of the population over 15.⁷⁾

Arteriosclerotic change of aorta and peripheral arterial systems, and occlusive arterial diseases were very few in Korea. Hypertension

Table 5. Trends of major cause of death

Order	1958~1959 ¹⁾	1966~1967 ¹⁾	1974 ²⁾	1979 ³⁾	1980 ⁴⁾
1	Pneumonia Bronchitis (73.8)	Pneumonia Bronchitis (43.8)	Malignant neoplasm (43.5)	Cerebrovascular disease (93.7)	Malignant neoplasm (92.4)
2	Tuberculosis (39.5)	Tuberculosis (35.8)	Cerebrovascular disease (38.6)	Malignant neoplasm (74.0)	Cerebrovascular disease (76.2)
3	Enteritis (31.0)	Cerebrovascular disease (26.1)	Hypertensive disease (38.6)	Other forms of respiratory disease (73.1)	Accidents and adverse effects (72.9)
4	Malignant neoplasm (25.8)	Malignant neoplasm (25.8)	Accidents (32.1)	Hypertension (54.5)	Hypertensive disease (66.7)
5	Cerebrovascular disease (19.6)	Enteritis (14.2)	Tuberculosis of respiratory disease (21.9)	Accidents (44.4)	Poisoning and toxic effect (39.0)
6	Heart disease (8.5)	Accidents (12.8)	Bronchitis, Emphysema (20.0)	Tuberculosis (30.7)	Heart attack (33.5)
7	Accidents (8.2)	Heart disease (11.7)	Pneumonia (17.0)	Chronic liver disease and cirrhosis (24.1)	Chronic liver disease and cirrhosis (27.5)
8	-	-	Other forms of heart disease (16.0)	Poisoning and toxic effect (20.0)	Tuberculosis (25.8)
9	-	-	Cirrhosis (12.4)	Pneumonia (19.8)	Suicide (20.8)
10	-	-	Symptoms, signs and ill-defined conditions (333.6)	Bronchitis, Emphysema Asthma (15.2)	Symptoms, signs and ill-defined conditions (71.8)

Note: (); Mortality rate per 100,000

Source: 1) Il Soon Kim, et. al, "Recent Mortality Trends in Korea", The Korean Journal of Preventive Medicine, 2 (1), 1969.

2) Dong Woo Lee, Il Soon Kim, "Development and Survey of Indicator on Mortality History: Laying stress on a notice of death", 「The Health Problem and a counterplan in Korea (III)」, Korea Institute for development, 1977, p.437-442.

3) Economic Planning Board, National Bureau of Statistics, Death Rate by Cause, 1979.

4) Sae Kwun Kong, et. al, 「Mortality History and the cause of death in Korea」, Korea Institute for Population and Health, 1983, p.219-221.

Table 6. Ratio of the adult disease of the aged

Disease Types	%
Disease of the Circulatory system	30.9
Disease of the Respiratory system	17.1
Disease of Digestive system	8.6
Mental Disorder	8.4
Malignent neoplasm	7.0
Arthropathy - rheumatism	4.9
Diabetes mellitus	2.0
Disease of the Genitourinary system	1.1
Total	100.0

Source: Survey on adult diseases of the elderly covered by medical insurance program, undertaken in 1979 by the Ministry of Health and Social Affairs.

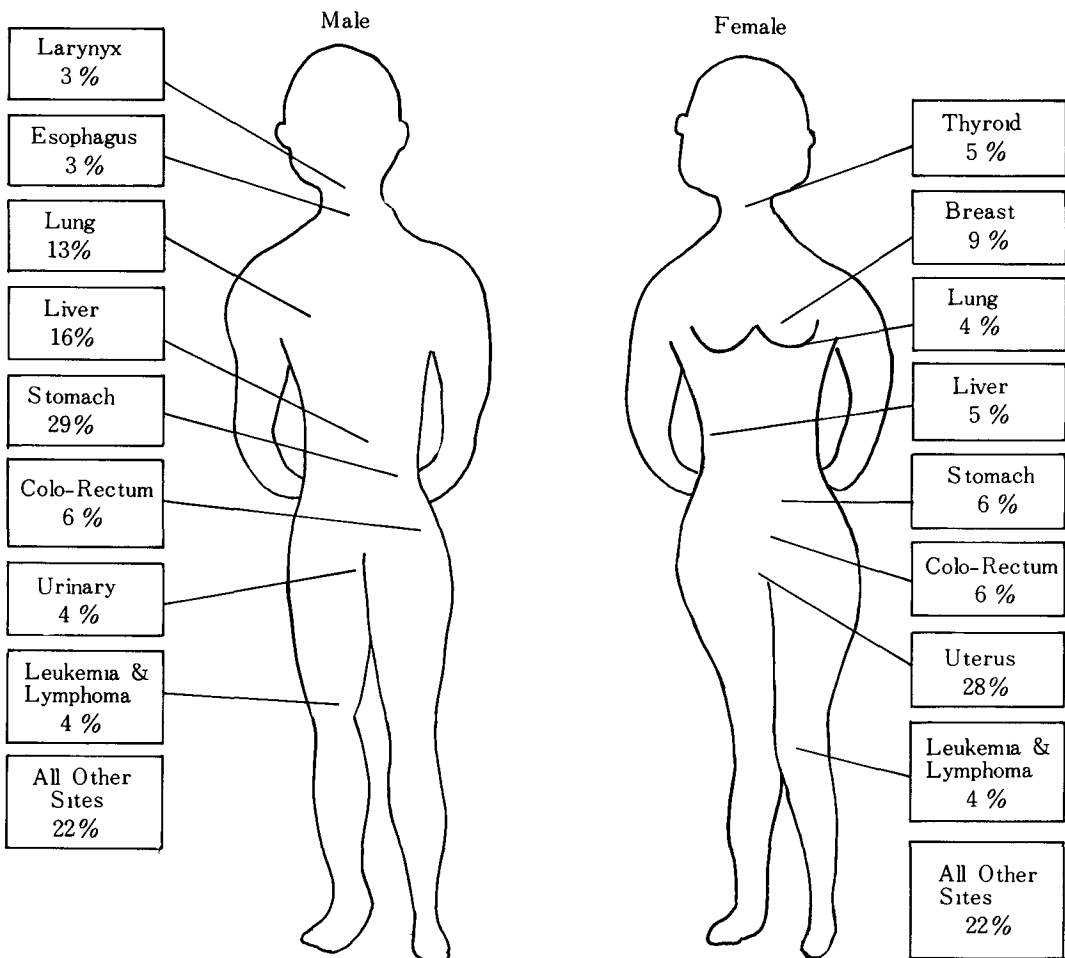


Fig. 2. Incidence of Cancer by Site and Sex Accessioned into Tumor Registry July 1983~June 1984

among Koreans are thought to be related to high sodium intake rather than primary arterial change.

Hypertensive cardiac disease was the most frequent circulatory disorder in Korea with a rate of 115/1,000 in men and 107/1,000 in women. Occlusive coronary arterial disease is not frequent in Korea.⁷⁾

The morbidity rate of cerebrovascular disease was 50 per 1,000 in males and 22 per 1,000 in females over 60. Most lesions were in peripheral vessels. Extracranial carotid lesions can be corrected easily by surgical procedures, but unfortunately occurs less often in Koreans than Americans.⁷⁾

Incidence of benign prostatic hypertrophy and prostatic cancer were also lower in Koreans. The reason is not clear but it might be due to a smaller number of the old population over 70 in Korea.

Diabetic & hypertensive retinopathy and cataracts were ophthalmologic disorders common to both races.

Degenerative arthritis involving knee and hip joints was a frequent, universal orthopedic disorder. Severe form of rheumatoid arthritis, however, was not frequent in Koreans.

The total number of the aged over 65 that was admitted and treated in Yeungnam University Hospital during 1 year in 1984 was 1,515, comprising 14% of the entire admission. The causes of admission were disorders of the circulatory, and digestive systems, neoplasms, and of neurological disorders in that order of frequency.⁹⁾

The total number of the aged over 65 that underwent operation in Yeungnam University Hospital was only 397, which was 7.4% of entire operations performed during same period of time. Most operations were performed for neoplasm and severe musculoskeletal problems, in-

Table 7. Number of beneficiaries

(dated May, 1984)

Systems	Total Beneficiaries (×10) ³	The elderly in thousands	Remarks
Total	19,110 (47.1% of Total Population)	829.5 (51.1% of the elderly)	
Medical care	3,258	196.5	the number of persons over 65 1,622 (in thousands)
Medical insurance	15,852	633.0	

Table 8. Cases consulted by physician and the rate of consultation on a year basis

Year	Classification of insurance	0~14		15~64		65+		Total	
		No.	%	No.	%	No.	%	No.	%
1980	Class 1	5,015,359	30.0	4,760,887	28.5	160,833	0.9	9,937,079	100
	Government Service	3,243,763	19.4	3,386,791	20.2	164,806	1.0	6,795,360	100
	Total	8,259,122	49.4	8,147,678	48.7	325,639	1.9	16,732,439	100
1981	Class 1	7,090,449	32.9	6,632,606	30.8	232,068	1.1	13,955,123	100
	Government Service	3,630,401	16.8	3,769,054	17.5	196,134	0.9	7,595,589	100
	Total	10,720,850	49.7	10,401,660	48.3	428,202	2.0	21,550,712	100

Source; Statistical Yearbook by the National Medical Insurance Counsel and Korea Medical Insurance Corporation, (1977~1981)

cluding accidents. The picture created by the remarkably lower percentage of operations in the elderly reflect their tendency to reserve operations only for absolutely imperative due to economic conditions.⁹⁾

3. Health Care system for the Elderly

The medical care security system has been provided in Korea since 1977 and has expanded its coverage every year. The program includes a public aid for poor and a medical insurance for the public. The number of beneficiaries reached up to 19,110,000 people (47.1% of the total population) in May 1984, of which 829,500 were elderly over 65 (51.1% of total number of elderly over age 65)¹⁾

As of May 1984, 196,540 people over age 65 received medical benefit by means of "medical aid". Among 83,706 people living in special facilities or in need of housing were allowed free care, but 108,546 people in poor households has to pay half of their medical expenses.¹⁾

653,000 elderly medical insurance beneficiaries were on 50% deductible for OPD care and 20% deductible for admission in-hospital care.¹⁾

For 4,900 disabled veterans over 65, the government gave not only compensation moneys, resettlement funds but also free medical care.¹⁾

However more than 49% of total number of old people over 65 still do not have any of the medical benefit described above.¹⁾

In other countries, the elderly usually show a higher rate of clinic visits and medical benefits compared to the younger population. But in our country the rate of clinic visits by the elderly is very low, from 1.9% in 1980. 2.0% in 1981. (Table 8)^{10, 11, 12)}

The per-case duration of morbid strus (sick-days) among the aged were 6.12 days for males and 5.13 days for females, the collective average being 5.57 days in 1981. These figures were much lower compared to those in the U. S. U. S. A. and Japan. This difference is thought to be a result of lower income per capita in Korea.⁷⁾

In 1984, the total annual budget of the Korean Government was about 10,000 billion Korean Wons. Health and medical care expenses accounted for only 0.7% of the total budget, coming to a figure of 6,870 million Korean wons.¹³⁾

The ratio of health care expenses over the total budget was 4.6 in Korea, 8.0 in west Germany, 6.1 in Japan and 9.4 in the U. S. A. in 1980. In the same year, the U. S. Government appropriated \$ 247.2 billion for medical health care, which is equivalent to \$ 1,067 annually in medical expenses per capita. It was only \$ 25~30 in Korea in the same year.

4. Medical Facilities and Manpower

Table 9 and 10 show the current status of various medical facilities, total number of hospital beds, number of social welfare institute, and medical manpower in Korea for the year 1983.

Almost all medical facilities are for short term, acute care. In addition, there were no specific hospitals or long term care centers for the elderly.

The ratio of medical doctors to the general population is 1:1,509 in Korea, 1:580 in America; for nurses, 1:806 in Korea and 1:150 in the U. S. A. There is a striking difference in these figures.²⁾ In 1983, there were 3,409 herb medical doctors and 2,519 herb medical clinics or hospitals in Korea.²⁾ They were for the primary care of all kinds of patients, the semblance of which has never been seen in America. Although it is impossible to accurately assess how many elderly patients are dependent on such herb medical practices, it would be very high. This high number is a result of many old people who favor traditional herb medical treatments both for reasons of custom and cheaper prices.

Public and private nursing homes and other facilities for the elderly are altogether in only 58 places throughout the entire country, but must administer to 4,283 people.¹⁾ The reason for so few nursing homes in Korea is "Confucianism" — or the influence of "filial piety" which

Table 9. Status of medical care and welfare institutes distribution of medical facilities and health centers (1983)

unit : estb					
City or Province	General hospital	Hospital	Clinic	Speci- alized Hospital	Dental hospital and clinic
Whole Country	156	282	7,252	11	2,522
City or Province	Oriental medical hospital and clinic	Dispen- sary	Midwifery clinic	Health center	Health subcenter
Whole Country	2,519	236	696	224	1,304
Number of Beds by Medical Facilities (1983)					
unit : number					
City or Province	Total	General hospital	Hospital	Clinic	
Whole Country	83,382	37,604	20,956	22,616	
City or Province	Dental hospital & clinic	Oriental medical hospital & clinic	Dispensary	Midwifery clinic	
Whole Country	57	541	413	1,195	
Number of Social Welfare Institutes (1983)					
unit : estb					
City or Province	Aged homes	Women's vocational guidance center	Maternal & child welfare institution	Child welfare institution	Institution for the handicapped
Whole Country	58	20	32	292	80

asks the young to dwell and support their parents. According to the Korean Research Institute for the Aged, 51.6% of the elderly lived with their first born sons, 16.2% with sons not first born, and 5.3% with daughters. 26.5% of them lived independently, either as couples or as widows.⁵⁾

As Korea undergoes further industrialization and changes in the nuclear family structure, these kinds of families will decrease in size and

number and the need for nursing homes will increase proportionally.

CONCLUSION

Even if the elderly population has a higher prevalence rate of disease, not many people can obtain medical benefits because of poor financial conditions. Since diseases affecting the aged progress chronically, early detection and long term care are of primary importance.

Table 10. Status of medical man power

Item	1975	1980	1983
Number of physicians ^{1), m)}	16,800	22,564	26,473
Population per physician	2,100	1,690	1,509
Number of dentists ^{1), m)}	2,595	3,620	4,611
Population per dentist ²⁾	13,596	10,552	8,664
Number of oriental medical doctors ^{1), m)}	2,788	3,015	3,409
Population per oriental medical doctors	12,655	12,645	11,719
Number of nurses ^{1), m)}	23,632	40,373	49,587
Population per nurse ²⁾	1,493	944	807
Number of pharmacist ^{1), m)}	19,750	24,366	27,395
Population per pharmacist ²⁾	1,786	1,568	1,458
Number of midwives ^{1), m)}	3,773	4,833	5,581
Population per mid fe	9,351	7,903	7,032
Number of nurse aides ^{m)}	33,433	61,072	85,910
Population per nurse aide	1,055	625	465

Note: 1) Number of permission registration.

2) Total numbrg of permission registration including a foreign resident.

Source: m) Ministry of Health and Social Affairs Republic of Korea, The Health and Social Statistical Yearbook, 1981, 1983, 1984.

It would be desirable to provide a system of free or inexpensive periodic chdck-ups for the aged and to increase insurance benefits in both duration and amount.

Because many of the elderly in Korea live with their children, who can usually handle minor medical problems well by following hospital instructions, the visiting nurse system has not yet been tried in this country. If the family structure changes and should more elderly live separately, a visiting nurse system would be very helpful. The system would be cheaper than a physician's fee and nurses can definitely provide better care than the family.

Because of financial straits, many of the Korean elderly approach the hospital in the very late moments of sickness, when they can no longer tolerate the pain or disorder.

Another peculiar Korean custom is that one doesn't like to face death out of the home. Consequently, quite a good number of terminally ill patients usually want to go home before their

deaths.

In America, most of the medical expenses for the elderly occur in the patient's last year of life, and especially during the last several days. It is quite different in Korea.

Presently, nursing homes and other facilities for the elderly are so limited in Korea, that creation of many more of these kinds of facilities are in dire need. A system to educate and train personnel who can work in these specific institutions should be prepared. Until the system is being established, general hospitals should operate special clinics for the aged.

In the U. S. Medical expenses for the elderly in 1978 were \$ 50 billion, but it will be up to \$200 bilhon by the year 2,000.¹⁴⁾ When medical expenses for a child was \$286 in 1978, that of an elderly was \$2,026.

In the year 2,000, when medical expenses for a child increases up to S 627 that tor an elderly will be triple to S 6,024.¹⁴⁾

Although the American GNP per capita(1980)

was \$ 11,360 almost 10 times more than Korea's \$ 1,605 medical expenses for the elderly are still very costly relative to that figure.

As stressed before, the growing population of the elderly in Korea is accompanied by a higher disease prevalence rate. To meet the needs of these changes, a large available pool of money, a more efficient operating system, a greater number of specialized facilities, and greater manpower should be organized.

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- 초 록 -

노인의료문제의 한국적 측면

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권 경 보

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정 중 학

우리 나라에서는 과거 20년간 경제사정이 호전되고 과학기술이 발달됨에 따라 국민 평균수명이 크게 연장 되었으며, 따라서 노인인구도 증가하게 되었다. 이와 같은 인구분포의 변화로 야기되는 여러 가지 문제중, 노령인구의 보건의학적인 현실성을 고찰하였다.

한국의 65세 이상 노인인구는 162만명으로 전체 인구의 4.0%를 차지하여 과거에 비하여 빨리 증가하였으나 8.9%, 10.3%, 15.8%의 일본, 미국 및 영국에 비해서는 아직 훨씬 낮은 편이다.

65세 이상 노인들의 25% 이상에서 진료를 요하는 높은 질환율을 나타내었으며, 질병별로는 순환기계질환 30.9%, 호흡기계질환 17.1%, 소화기계질환 8.6%, 정신장애 8.4%, 악성신생물 7.0% 등의 순이었다.

의료수혜 현황으로는 의료보호와 의료보험을 합하여 51%의 노인인구가 전액 혹은 일부 의료비 보조혜택을 받을 수 있으나 보험수혜노인의 수진율은 극히 낮아(1981년에 2.0%) 노인들의 진료기피의 한국적 특색을 보여주고 있다. 노인들에 많은 성인병들은 만성진행형이어서 조기진단, 전문적관리 및 장기진료가 필요하나, 노인전문 진료기관, 장기수용시설 및 전문인력은 전무한 실정이다 급속히 증가하는 노인인구의 보건을 위하여 양로시설과 장애노인수용소의 조속한 확충과 가정방문 간호원제도, 노인의료수혜 확장, 무료 신체검사, 성인병 예방운동 등 정부차원의 제도적 개선과 적극적 지원이 지금부터라도 시행되어야 되겠다.

— Abstract —

Korean Aspect of the Medical Problems of the Aged**Koing Bo Kwun**

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As the result of a significant improvement in the economic situation and development of scientific techniques in Korea during the last 20 years, the life expectancy of the Korean people has lengthened considerably and as a result the number of old aged people has markedly increased.

Such an increase of the number of aged people brought about many problems. Authors would like to take a medical look at the "Problem of old aged people" presently facing us in Korea.

Currently the number of people over 65 has increased rapidly and is 1,620,000, 4% of total population. But it is still much lower than 8.9% in Japan, 10.7% in U. S. A., and 14.9% in the United Kingdom.

Over 25% of these aged people were found to have at least more than one disease which requires medical care. Diseases occur in the circulatory system, 30.9%, respiratory system, 17.1%, digestive system 8.6%, mental disorders, 8.4%, malignant neoplasms, 7.0%.

About 51% of the aged over 65 are under medical security benefit, mostly with partial coverage plan. Their clinic visit rate was very low (2.0% in 1981), which might be due to financial reasons.

Since diseases affecting the aged progress chronically, early detection and long term care are utter most important. However there is almost no special facility, long term care center or geriatric specialist.

For proper management of medical problems in the growing population of the Korean elderly expansion of medical security coverage, greater number of specialized facilities, education of geriatric special manpower and efficient operating system should be established.