RESEARCH ON HEALTH AND SOCIAL WELFARE IN KOREA: 1994 SUMMARY REPORT OF KIHASA

June 1995

KOREA INSTITUTE FOR HEALTH AND SOCIAL AFFAIRS

FOREWORD

Currently the welfare needs of the population are increasing in accordance with the economic development of Korea. Researches concerning health and welfare issues are mostly needed to increase the national competitiveness in the wake of globalization. In connection with the admission to OECD, the production and development of statistics relevant to health and welfare are urgently requested. It is also urgent to discover proper measures for increasing the quality of life of the population.

In light of the Korean government's efforts to further realize globalization and international cooperation, the Korea Institute for Health and Social Affairs (KIHASA) welcomes and appreciates the research interests of its foreign colleagues in the areas of health, social welfare, and population policy. This publication intends to provide those interested in research activities of the Institute with a broad overview of current health and social welfare research by furnishing summaries of the major studies conducted in 1994.

As an autonomous policy-oriented institute, KIHASA is composed of six research divisions that direct their efforts toward assessing the need for policy and its provision in the fields of health services, social welfare, and population. Since its establishment by the Korean government, KIHASA has made significant contributions to policy-oriented research in compliance with the government's requests and in conjuction with Korea's socio-economic needs.

Annually, KIHASA conducts approximately forty short- and long-term research projects, thereby accumulating sound research knowledge and experience in a wide range of issues. Throughout all of its projects,

the Institute is dedicated to improving the social development of the country, promoting globalization and fostering a higher quality of life for all Korean people.

In 1994, KIHASA undertook several significant research studies. In the field of health policy, major research themes included improving Korea's health care service system and strengthening the competitiveness of Korea's drug and food industries. Other projects included mental health, projection of physicians, and a national health examination survey, health information system, and breastfeeding pattern, and health educational program of the public health doctors.

In the field of social welfare policy, the Institute undertook research on the promotion of a welfare and social security system for low-income families, the elderly, and children. Thus, researches concerning living state of the elderly, children adoption, children's rights, volunteerism, and quality of family life were conducted. In addition, researches on broken families, burial customs, and teenage family heads were done.

In the field of population policy, KIHASA conducted the 1994 National Fertility and Family Welfare Survey, the results of which will provide the basis for establishing future population policies. In particular, imbalance of sex ratio at birth which is emerging as an important issue in many Far Eastern nations, were studied by KIHASA.

In continuance of the effort to promote the exchange of information, I hope this publication will be useful to those interested in establishing policies in the fields of health, population, social welfare and social security. Herewith I would like to be grateful to Ms. Hwa-ok Bae for her hard work of editing the summary report for publication.

June 1995

Ha-cheong Yeon, Ph. D.
President

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I . HEALTH POLICY RESEARCH

Physician Manpower Projections through 2010

by Kun-yong Song, Jeong-soo Choi,
Dong-kyu Kim, et al.

Introduction

The Korean government has been making efforts to increase the accessibility, availability, and equality of health care by prioritizing planning of health service human resources in the seventh Socio-economic Development Planning for a five year of 1992-1996. As part of this effort, KIHASA conducted a physician manpower study for projecting the supply and requirements of physician manpower through 2010 and recommendation of manpower policy.

Supply and Requirement of Physicians

For supply projection, the "In-and-Out Move Method" with the "Demographic Method" is applied. Different types of transition rates, such as those measuring accession, attrition, mortality, and activity according to age, are incorporated into our projection model. Assuming the number of medical school graduates is 2,880 at constant each year in the future, estimates (baseline projection) show there will be 66,118 physicians (14.1 per 10,000 people) in the year 2000 and 91,259 (18.4 per 10,000 people) in 2010. (See Table 1.)

For projection of physician requirements, health services demand and physician's productivity are separately estimated. For estimation of health service demand, "Health Demand Method" is used. The data for demand projection are gathered from health insurance records and a demand estimation equation is formulated.

Table 1. Baseline Projection of Physician Supply, 2000～2020

Year	Population (1,000)	Total physicians (A)	Active physicians (B)	(B/A*100)	Physicians per 10,000 persons
1995	44,850	52,324	46,620	89.1	11.67
2000	46,789	66,118	59,769	90.4	14.13
2005	48,434	78,909	71,186	90.2	16.29
2010	49,683	91,259	82,109	90.0	18.37(21.92)[1)]
2015	50,346	103,137	92,422	89.6	20.48
2020	50,578	116,837	102,583	87.8	23.10

Note: 1) includes oriental medicinal practitioners.

Estimated per capita and total health services demand for 2,000 through 2010 are shown in Table 2.

Table 2. Projected Demand for Health Services, 2000～2010

Year	2000	2005	2010
Per capita			
In-patient days	1.21	1.43	1.64
Out-patient visits	8.80	9.40	9.88
Total (in 1,000)			
In-patient days	56,756	69,114	81,720
Out-patient visits	411,602	455,466	490,943

In addition to the demand for health services, physician productivity affects physician requirements. Due to changes in lifestyle, living environment, and physician behavior, physician's patient load each day has declined. The trend will be continued in the future. In 2010, physician's patient load is estimated to treat an average number of 12 in-patients or 35 out-patients a day. (See Table 3.)

Table 3. Estimated Physician's Patient Load (Out-patient) per Physician, 2000～2010

	per day			per year		
	2000	2005	2010	2000	2005	2010
P.P. 1[1)]	35.8	35.2	34.6	9,475	9,017	8,725
P.P. 2[2)]	34.0	33.4	32.9	9,001	8,566	8,289

Notes: 1) projected physician productivity in this study.
2) five per cent less than the projected physician productivity.

Requirements for physician manpower projected by a fomula of estimated health services demand divided by physician patient load during a year is 84,362 in 2010. (See Table 4.)

Table 4. Projected Requirements for Physician Manpower, 2000～2010

Assumption of projection	2000	2005	2010
Medium P.[1)]	61,412	73,502	84,362
High P.[2)]	64,645	77,377	88,805

Notes: 1) Based on physician productivity of p.p.1 in Table 3.
2) Based on the projected physician productivity of p.p.2 in Table 3.

Conclusion

This comparison of baseline supply projection and projected requirements of physician manpower indicates that a shortage of physician manpower is estimated throughout 2010. (See Table 5.)

Table. 5. Comparison of Physician Supply and Requirements, 2000～2010

Year	2000	2005	2010
<Supply>			
Physician	66,118	78,909	91,259
Active Physician ⓐ	59,769	71,186	82,109
<Requirement> ⓑ			
Medium P.	61,412	73,502	84,362
High P.	64,645	77,377	88,805
<Balance> ⓐ-ⓑ			
Medium P.	△1,643	△2,316	△2,253
High P.	△4,876	△6,191	△6,696

As an alternative to narrow the gap, increase of physician supply is recommended: new comers be increased by 300 in 1995 or yearly even increase of 100 for four years to come. (See Table 6.)

Table 6. Comparison of Alternative Supply and Requirement Projections, 2000～2010

	1995	2000	2005	2010
<Requirement>		61,412	73,502	84,362
<Supply>	<Inc.1>[1]	59,769	72,048	84,419
	<Inc.2>[2]	59,769	71,756	84,614
<Balance>	<Inc.1>[1]	△1,643	△1,454	57
	<Inc.2>[2]	△1,643	△1,746	252

Notes: 1) An increase of 300 in 1995.
2) An yearly even increase 100 in 1995 through 1998.

So as to increase new comers, a priority should be given to increase of enrollees for existing medical schools having less than fifty students per school. Establishment of new medical schools should be restricted.

National Health Care Policy Issues into the Next Century

Edited by Soo-chun Kim and Eun-joo Kim

Background and Objectives

Industrialization has changed the socioeconomic landscape of Korea, but the government has yet to restructure our health care system to adapt to these changes. In fact, the government lacks a long-term vision for health care. To this end, we attempt to do the following in this study:

1. outline principal socioeconomic changes that affect health care policy;
2. provide concrete methods for improving our population's health status; and
3. identify key issues for health care policy in the future.

As the health care system is multi-faceted, experts in various disciplines in addition to public health contributed to this report.

Results

1. Health Promotion

We recommend the establishment of a government organization whose sole function is to encourage good health habits. Its first duty will be to develop a responsive and visionary national health promotion policy.

2. Nutrition

Information on nutrition and dietary guidelines should be widely distributed because those with healthy diets have less risk of infection and disease.

3. Smoking, Alcohol, and Drugs

Smoking is recognized as a major cause of lung cancer, ischaemic heart disease, chronic bronchitis, and emphysema. It also has negative social and economic effects. We must begin a campaign to stop and prevent smoking. Use of alcohol and drugs, especially psychoactive drugs, should also be discouraged through advertising and health education.

4. Safety

Injuries and fatalities caused by car accidents, drowning, fires, chemical poisoning, medicine overdose, and falls in the home can be prevented through the combined efforts of health educators, transportation designers, urban planners, and industrial leaders.

5. Chronic Disease

Contraction of chronic diseases creates a burden for families and society. As average life span increases, the number of those with chronic diseases likewise increases. Policies attempting to reduce those numbers should take into account the specific characteristics of each disease.

6. Communicable Diseases and AIDS

Communicable diseases are a major cause of death. Combatting AIDS is a particular challenge because a cure has yet to be found and opportunities for prevention are limited. By taking the proper measures, several communicable diseases can be eliminated, but prevention of AIDS can only be achieved through health education.

7. Mental Health

At least three per cent of Korea's population suffer from serious mental disorders. Improvement in mental health status requires the development of structures, mechanisms, and community-based services in accordance with related policies, legislation, and funding mechanisms.

8. Dental Health

Recently, the frequency and severity of dental caries and periodontal disease has been increasing. Children, parents, and teachers must be educated about this problem and drinking water must be fluoridated to curb this increase. Government should also provide incentives to dentists to prevent dental decay.

9. Health of Children and Women

Children are often a vulnerable group in society because they lack political power. Women have unique health needs that require specific health services. Improving the health of children and women can be attained only through a collaborative effort by various sectors.

10. Adolescent Health

Encouraging healthy behavior among adolescents is a wise investment for the future. Schools can play a key role in developing and implementing curricula that emphasize lifelong healthy habits.

11. Health of the Elderly

In 1990, 4.9% of the population were over the age of 65 years. That percentage will rise to 12.5% by the year, 2020. These demographic changes will have profound implications for the future of health care policy, especially long-term health care. Creating better opportunities for the elderly to be healthy requires a comprehensive policy.

12. Other Issues

In the remainder of this report, we recommend a system for distributing health care supplies, a medical insurance program, and a method for cooperative treatment with traditional Eastern medicine. The last chapter discusses health policies and topics for the 21st century.

Status of the Mentally Ill in Korea and Policy Recommendations

by Jung-ja Nam, Young-ja Han,
Jung-soo Choe, Choong-kil Han

Background

For many years, the Korean government has considered implementing a community mental health program in order to increase existing services for the mentally ill, to provide more appropriate services and to transfer many patients from institutional care. Throughout this study, we attempt to assess the current situation of the mentally ill in Korea and furthermore look to develop an appropriate mental health policy.

Objectives

1. To assess the prevalence of mental illness, especially that of severe and persistent mental illnesses which should receive top priority in the allocation of government resources.
2. To assess expenditures for and utilization of existing mental health services.
3. To assess the status of existing mental health resources--facilities and personnel--and to forecast future requirements and the necessary supply of mental health services.
4. To develop strategies for the early detection of mental illness.
5. To improve the quality of service provided at mental hospitals and asylums.

Methods and Data

Medical insurance and Medicaid records from 3,400,000 mental patients during 1993 were analyzed to assess the existence of mental illness and the utilization of mental health facilities. To evaluate existing mental health services, we surveyed 34 mental hospitals and 23 mental

asylums in September 1994. In the same year, a General Health Questionnaire (GHQ) and Quick Diagnostic Interview Schedule (QDIS) were tested at primary health care centers for their effectiveness at diagnosing mental illness. Finally, existing statistical data were used to forecast the need for and necessary supply of future mental health resources.

Results

1. Prevalence of mental illness:

Including minor neuroses, 1,454,242 persons (3.3% of the population) were diagnosed as mentally ill at the end of 1993. Schizophrenia was diagnosed in 0.18% of the population. The data shows that the prevalence of mental illness increased dramatically in the 20s age group while it reached its higher numbers in the 50s and 60s age groups. Mental illnesses were also more prevalent among women than among men in every age group.

Severe and chronic mental disorders were diagnosed in 166,713 persons (14% of all mentally ill). Considering both diagnosis and length of treatment, 78,150 persons (6.5% of the mentally ill) had severe and chronic mental disorders. Criteria for diagnosing severe and chronic disorder were the same as those developed by the U.S. National Institute of Mental Health. 64% percent of in-patients at mental hospitals and 76% of in-patients at asylums were covered by Medicaid.

2. Utilization of the mental health services:

Insurance data showed that in-patients made up 6.8% of the total patient population while out-patients amounted to 93.2%. The data also showed that 60% of in-patients suffered from schizophrenia and 54% of out-patients suffered neurotic disorders.

Medical insurance companies spent 183,500 million won on mental health services for their clients. Of this, 107,300 million (58.5%) was spent on in-patient services, while 76,200 million (41.5%) was spent on out-patient services.

3. Mental health facilities:

Most mental health facilities provided patient maintenance and treatment, but rehabilitation services lacked significantly. A total of 548 mental facilities, including asylums, had 37,369 beds in 1994.

Discrepancies in regional distribution of mental health resources were even larger than that of all health resources. We measured regional distribution according to medium-sized catchment areas (MICA) and utilization rates within each MSCA. Of 140 areas, 82 (59%) had no mental health facilities at all and 52.9% lacked a mental health specialist within the region. In almost one third of the MSCA, the out-patient utilizing medical facilities within the area was less than 10%. Even worse for the in-patient, the rate was less than 10% in almost half of the MSCA.

4. Status of mental health personnel and supplies:

As of June 1994, 1,398 psychiatric doctors, 2,000 nurses, 130 clinical psychologists, and 140 social workers were working at the nation's 548 public and private mental health facilities. These numbers are relatively low in comparison with other countries. The current rate of 2.2 psychiatric doctors per 100,000 people is much less than other countries at the US$ 10,000/per capita GNP level. The supply of psychiatric doctors must be increased at the rate of 50 new doctors each year to meet the mental health needs of Korea throughout 2010.

5. Status of mental hospitals:

Among inpatients at mental hospitals, 64% are covered by Medicaid, 29.7% have medical insurance, and 7.3% receive no medical financial support. Psychiatric doctors treat an average number of 79 patients while nurses service an average of 15, three times more than than prescribed in the Medical Act. Almost 44% of the patients share a room with eight or more patients and 89% are in confined wards. In general, hospitals could not run rehabilitation programs because of the lack of personnel.

6. Status of asylums:

Of asylum residents, 32.7% were homeless, 88.1% were diagnosed with schizophrenia. More than 70% of the residents had been in the asylum longer than three years and were under the age of forty. Also, most institutions employed non-medically trained personnel who command lower salaries than trained medical personnel. More than 40% of the residents shared a room with eight or more patients and 14.3% shared a room with 33 or more patients. Of all asylums, 73.9% restricted patients' use of letters and the telephone to communicate. At 56.3% of the institutions, visitors were allowed to meet patients only at designated meeting places, while 34.8% did not have any visiting restrictions.

7. Early detection of mental illness at the community level:

As a screening instrument, we selected 11 items from the General Health Questionnaire developed by Goldberg to use in identifying risk groups for mental illness. Then we used a second instrument, the Quick Diagnostic Interview Schedule, a computer program based on the Diagnostic and Statistical Manual of Mental Disorders, to diagnose mental disorders. More women than men were found to be at risk for mental illness, especially women who were less educated, medical security beneficiaries, divorced, or aged 15 to 29.

After application of the screening instruments, 21.7% of the patients receiving care at primary health facilities were found to be at risk for mental illness and 72.5% of those then given the QDIS were diagnosed as mentally ill. Of those diagnosed as mentally ill, 18.9% suffered from general anxiety, 15.2 had agoraphobia, and 12.8% were clinically depressed. Specialists confirmed diagnoses in every 18 out of 19 cases.

Policy Recommendations

1. Improve the management of services and care for those suffering severe and chronic mental disorders.

2. Review and revise the medical security system.
3. Conduct studies of national mental health status at regular intervals to monitor morbidity and prevalence of certain types of disorders.
4. Introduce community mental health programs to enhance the accessibility of mental health services.
5. Mental hospitals should become open-systems, willing to adapt to the needs of patients.
6. Incrementally change the services of asylums and promote open-systems.
7. Begin early detection of the mentally ill at all primary health care centers.
8. Train staff appropriately.
9. Support the formation of a Family Society of Mental Disorders and a Mental Health Development Council.

A Baseline Study on the Demonstration Project for Instituting Home Health Care in Korea

by Ho-shin Ryu

Background and Objectives

While the socioeconomic status of Koreans has been dramatically increasing in recent years, chronic and geriatric diseases have also been on the rise, bringing about many changes in our health care system. To address this rising concern, government health officials have begun planning and promoting a hospital-directed home health care system that will expand delivery of health services. The purpose of this study is to develop an effective method for the institution of this new system.

The basic goals of the home health care industry are to reduce health care costs, to increase the attrition rate in hospitals, and to care for patients effectively and conveniently at home. Based on these goals, a hospital-directed home health care model was established as an alternative to traditional in-patient services. Demonstration projects were implemented at four hospitals in Seoul, Taegu, and Wonju from September to December 1994. This report was prepared midway through the project. In it we analyze baseline data and develop a model for this type of care, and we also provide guidelines on cost and methods of payment.

Summary of findings

1. Establishment of payment and reimbursement for home health care services is important in promoting the home health care industry. We recommend a fee-per-visit system composed of three kinds of fees: a basic service fee, a travel fee, and per-service fees. Like fees paid for in-patient care, insureds pay 20% and insurers pay 80% of the basic

and per-service fees. The travel fee is borne totally by the insured. Total fees are calculated as follows:

HCC = BASIC + TRAVEL + PER-SERVICE

HCC = Total cost of home health care
BASIC = Basic service fee of 15,000 Won
TRAVEL = Travel fee of 5,000 Won
PER-SERVICE = Per-service fees (variables).

2. For this study, we designated nurses as home health care service providers at four hospitals, Kangdong Sacred Heart Hospital (KSHH), Yonsei University Medical Center (YUMC), Youngnam University Medical Center (YMC), and Wonju Christian Hospital (WCH). Aspects of organizational structure including planning, monitoring, quality control, and evaluation were established to meet the various needs of each hospital setting, as well as to meet the standards for adequate management and clinical operation. Organizational structures differed at every hospital: at KSHH, home health care was the domain of the nursing department; at WCH, it was the domain of the nursing department in an organizational context but was operated independently; at YUMC, home health care was in the jurisdiction of the hospital president; finally, at YMC, the vice president oversaw home health care but was in constant contact with the president.
3. The total number of patients serviced during two months (September to October) was 29 patients as KSHH, 61 patients at YUMC, 20 patients at YMC, and 63 patients at WCH.
4. In September, the average number of visits per patient was 2.9 at KSHH, 1.4 at YUMC, 2.6 YMC, and 3.9 at WCH. The average estimated cost per visit for services received between September and October was 22,871 Won at KSHH, 22,416 Won at YUMC, 25,559 Won at YMC, and 25,620 Won at WCH. The average estimated cost per visit of all four hospitals was 23,500 Won. The apparent underutilization of home health care services may be due to its

novelty.

5. The most frequently treated diseases were cardiovascular diseases at KSHH, chronic obstructive pulmonary diseases at YUMC, cancer and complications due to early discharge after an operation at YMC, and Ceasarean section at WCH.
6. Home health care services will need to be vastly improved before it is accepted. The most serious of current problems are the lack of hospital policies, and the doctors' support and participation for carrying out this program.

A Study on Improving the Education and Productivity of Public Health Doctors

by Jin-soon Kim, Seong-jin Cho, Seong-wook Choi

Background and Objectives

In accordance with the "Special Law for Rural Health Services", Public Health Doctors (PHDs) have been dispatched to rural communities since 1981. But while 3,711 doctors were reported working at health centers in these communities as of June 1, 1994, the need for doctors still persists. The education and annual deployment of PHDs has not been effective because no system exists to manage the work of the dispatched PHDs, and continuing education programs have not been conducted to ensure the quality of their work. The result of this lack of supervision and continuing education has been low productivity among PHDs. In this paper, we make recommendations for amending laws, improving current PHD educational programs, and establishing continuing education programs to increase PHD productivity, imbue them with spirit of public service, and thereby meet the urgent need for health services in medically underserved areas.

Improving PHD Productivity

Through 1994, 3,695 PHDs were dispatched to medically underserved areas in Korea, and 71.3% of them have continued working in those areas. Problems with PHDs and the PHD program are:

1. PHD duties are unclear.
2. Rather than seeing themselves as fulfilling a public need as the primary health care providers in a medically underserved locale, 51.3% of PHDs said they view their job as something that exempts them from military service.

3. Though they spend most of their time treating patients, PHDs see only an average of eleven patients per day.
4. PHDs have little or no administrative support.
5. PHDs lack the business knowledge to run the health centers. They are also ill-equipped to provide preventive health services.
6. Senior PHDs posted at health centers have not been fulfilling their duties assisting the PHDs and evaluating their work.
7. Funding for health centers is insufficient. Also, an accounting system that divides the budget into general and special accounts makes efficient management impossible.

Recommendations for solving these problems are as follows:

1. Clarify the tasks-such as health promotion, prevention, counselling, or education-of health centers and subcenters.
2. Clarify the roles-such as administration heads, primary health care providers, and educators-of PHDs.
3. Provide PHDs with adequate technical and administrative assistance.
4. Improve public relations and hold periodic science lectures that are open to community residents.
5. Focus on serving the elderly. More and more elderly need health care, and private hospitals cannot accomodate all of them.
6. Revise the special law to reflect public health care needs by giving PHDs the same salary and benefits as other civil servants.
7. Modify the size and functions of public health subcenters in accordance with local requirements. Make periodic reassessments to keep current with requirements.
8. Provide each health subcenter with a monthly operating budget of 200,000 won. Currently budgets are divided into general accounts and medical accounts; however, consultation accounts should be included in the general accounts category.
9. Periodically dispatch senior PHDs to county public health centers to direct and manage PHDs, evaluate their performance, and re-educate them when necessary.

Improving the Educational Program

Until 1994, public health doctors and dentists were educated together, even though their functions are separate and distinct. Since such a method of education showed low effectiveness, those studying to become public health physicians, dentists, and specialists are now being educated separately.

However, other problems have not been solved. For instance, the budget and facilities of PHD educational programs remain insufficient. Also, continuing education of PHDs has been poor. Although the heads of provinces and counties should have been conducting continuing education programs for PHDs at least twice a year to keep health service current with environmental changes and local requirements, such programs have not been conducted since 1983 and were conducted only once for three days in both 1981 and 1982. Our recommendations are as follows:

1. Form a 1995 Education Preparing Team to modify the contents and time schedule of educational programs in accordance with regional characteristics and health service needs.
2. Appoint an organization and persons, such as KIHASA or the PHDs that comprised the Education Research Team, to develop a new curriculum that emphasizes the public service element of medical practice.
3. The 1994 Education Preparing Team successfully conducted the first Teacher's Training Workshop. A permanent organization should be charged with continuing to conduct this workshop on a national scale.
4. Formalize PHD continuing education programs by requiring them under the "Special Law for Rural Health Service".
5. Standardize the time of continuing education programs to three to five days in June or July.
6. Ensure the quality of health services by thoroughly reviewing medical knowledge, techniques, health education, and administration in continuing education programs. Encourage PHDs to become specialists.

7. Encourage group study within counties.
8. In the long term, establish a PHD Education Center under the Ministry of Health and Welfare, but allow it to be laterally related to the NIH training department independent of the Ministry of Health and Welfare. In each province, colleges of medicine and dentistry can be charged with educating PHDs.
9. Increase funds for PHDs and PHD education programs by imposing a special tax to finance the improvement of PHD education and by gathering support from the Korean Medical Insurance Corporation.
10. Reorganize the curriculum of colleges of medicine & dentistry to include community medicine and clinical practice in the field. PHDs who were educated in community medicine showed higher rates of performance and were better able to adapt once in the field than those who were not.

Current Breastfeeding Practices and Policy Measures to Promote Breastfeeding in Korea

by In-hwa Park and Na-mi Hwang

Purpose

The superiority of human milk over any other milk and infant formulas to nourish human infants can hardly be challenged. Over the years, it has become increasingly evident that it is the most important factors in and the safest method for neonatal infant and child health growth and development. Yet despite these facts, breastfeeding by Korean mothers has been in serious decline, emerging as one of the major health problems in contemporary Korea.

The purpose of this study is to identify and compare breastfeeding practices among different social groups as the basis for formulating a national policy to promote breastfeeding. The analytic framework of this study focuses on identifying the prevalence of breastfeeding as the exclusive means of nourishment and the patterns of breastfeeding practices.

Population Groups Studied

Our study population consisted of all infants admitted to one of 214 Health Centers throughout the country during April to August, 1994. The 10,830 infants were newborn to 18 months old. Baseline and retrospective information on the study population were collected through interviews with the infants' mothers. Questions included those on socio- demographics and general health issues, as well as patterns of breastfeeding.

Methods of analysis include (1) application of the life table technique to obtain cumulative continuation rates of breast-feeding, and (2) a sub-group comparison of the breastfeeding survival function to determine the effects of independent variables of socio-demographic characteristics,

infant health status, and maternity ward services.

Major Findings

Our first major finding is that breastfeeding has become less common in Korea. Of children less than a month old, 55.6% were fed exclusively through breastfeeding. The rate for children less than three months old was 41.6% and for children less than six months it was 28.8%. The median total breastfeeding period was 1.6 months. Breastfeeding conducted in conjunction with other types of nourishment was reported at higher rates. Of infants less than a month old, 72.5% were breastfed in addition to being given other types of infant formula as well as 58.9% of infants less than three months old and 45.1% of infants less than six months old.

A second major finding is that breastfeeding is less common among children residing in urban areas, those whose mothers were highly educated, those who were firstborn or male, babies with low birth weight, and those born through Caesarean section. A higher rate of breastfeeding among babies who were breastfed while their mothers were in maternity wards suggests that post-natal care can be influential. Only 48.3% of those fed with breastmilk substitutes at maternity wards were breastfed at home.

Recommendations

Breastfeeding is in general decline, but is noticeably decreasing among the urban elite and those who give birth at maternity wards that do not encourage breastfeeding. Our efforts to increase breastfeeding practice should be concentrated on these two groups. Education about breastfeeding and its benefits is particularly important for pregnant women. We also need the cooperation of related government and non-government agencies to control the marketing and distribution of breastmilk substitutes and legally define the responsibilities of the health care delivery system, including the encouragement of breastfeeding in maternity wards.

A Study about Developing Computerized Information Management Systems at District Health Centers

by Seon-woo Kim and Young-chul Chung

Background and Purpose

We are now in the information society age. The Korean government is planning a National Key Information System to promote computerization in every field to maintain our international competitiveness. Past attempts to establish a health management information system to support district health services have not been organized, and therefore, unsuccessful. We believe a successful launch of such a system would be preceded by standardization of health service tasks and forms, and provisions for the computers and data to be linked.

Providing primary care is a main function of public health services. However, the quality of care provided by public health institutions cannot be compared with that provided by private health institutions. Primary care, as well as specialized care, such as that for tuberculosis, venereal disease, leprosy, hypertension, and diabetes, must be improved in public health centers.

The purpose of this study is to improve the execution of tasks at public primary care clinics by proposing the development of a computerized information management system that links a database of patients to a database of health care services offered. After analyzing the current status of district public health centers, we have concluded that an information system that manages primary and specialized care data according to family units would be most helpful. Such computerization would have these benefits:

1. Centralization and comprehensiveness of patient records and family history.

2. Ease of producing reports and statistics for district health care services.
3. Saved time and manpower calculating claims for medical care fees.
4. Production of statistical data after treatment.

Recommendations

Successful computerization and improvement in public health services require the active cooperation and compliance of public health staff and the standardization of forms. Staff must be committed to raising public health standards and understand the importance of achieving that goal. Computers will be helpful in standardizing hospital records and forms. However, we must also be sure that computer hardware and software are also standardized. Information that cannot be accessed because of different hardware or software requirements are of no use. Every computer station, from that used during patient check-in to that used in after-treatment statistical analysis, must be compatible with each other.

A computer systems manager should be available at each health center to maintain the computer system, make adjustments, or troubleshoot when needed. Such personnel is currently lacking, and because of the expense of hiring an outside person, health centers may consider providing computer training to current staff members.

Treatment rooms should have computer terminals in which patient data can be quickly retrieved or stored. The computers and data should be linked with all other health service centers through a central network.

Finally, much time will be saved if related Ministries allow information on current databases to be used for health center databases. For instance, the public administration database includes information on age, sex, and marital status, which is also needed for health center databases. Transferring the information through a computer modem link will eliminate hours of data entry.

Research on Technical Assistance for Managing Model Health Centers for Health Promotion

by Jong-hwa Byun, Soon-young Lee,
Kee-hey Choung, et al.

Background and Objectives

Rapid economic growth and a rise in living standards during the last three decades has resulted in Korea becoming an industrialized nation. At the same time, a nationwide expansion of health insurance coverage has made medical care easily accessible at reduced costs. These improvements in living conditions and public health care have led to a lower infant mortality rate of less than twelve per one thousand births and people living and wanting to live longer and healthier lives, among other indicators of general population health. National economic development and advanced medical care have also reduced the prevalence of infectious diseases. However, chronic diseases and rising medical expenses have become major problems.

Our current health care model, which is focussed on controlling the spread of infectious diseases, does not addresses current health problems, such as the increase in chronic degenerative diseases and accidents caused by environment and lifestyle changes. Improved medical care is also not sufficient to curb these problems. The government's enactment of a national health promotion law in January, 1995 was a step in the right direction. To ensure continued good health and curb the increase in accidents and chronic diseases, preventive health education should be widespread and our living environment must be made safer.

The purpose of this study is to analyze the current status and problems of health centers in Korea and provide technical assistance for initiating model health promotion centers. For purposes of this paper, health promotion is defined as encouraging healthy habits for illness prevention.

Research Methods

1. Meetings were held with professionals in other fields to gain information and advice to make provisions for technical assistance.
2. KIHASA and the Ministry of Health and Social Affairs jointly selected one health center each from fifteen special cities and provinces. Officials from each organization also made joint trips each health center chosen and held meetings to gather baseline data.

The Current Status of Health Centers

Local health centers provide primary health care, family planning, maternal and child care, communicable disease control, and immunization services. The quality of the services is low compared with that offered at private hospitals, so utilization of local health centers is also low. In addition, these centers do not provide services relating to the prevention and care of chronic diseases, a major health concern right now. The centers are unable to provide such services because the proper health promotion policies and program development has been lacking as well as technical and administrative assistance, such as educational materials, personnel training, funding, and equipment.

Recommendations

1. Strategies for National Health Promotion

Four types of strategies should be pursued in implementing the National Health Promotion Program. The **educational strategy** is to implement health education programs and initiate the National Health Practice Movement to increase the health practice rates. The **preventive strategy** includes conducting health screenings and examinations at the model health centers for health promotion. The **social and institutional strategy** should codify plans for health promotion, for example, passage of the health promotion law and laws that will provide economic incentives for individuals to control behavior that may affect their health. Part of this strategy also includes preparing the budget for and reorganizing

health centers for initiation of the National Health Promotion Program. The **environmental strategy** aims to improve public sanitation and fitness facilities.

Four factors will contribute to, and possibly determine, the success of the National Health Promotion Program. First, technical and budgetary support for the provision of health screenings for all local residents should be adequate. Second, individuals, families, and communities must be united to solve the health problems. Third, technical assistance must be provided to health promotion and prevention programs. Finally, public and voluntary agencies must participate in providing similar health promotion programs.

2. Lifelong Health Care Program

One measure in the effort to promote national health is the initiation of a model health center for health promotion program. This is a pilot project that will open programs for health promotion at fifteen selected local health centers. The model health center for health promotion program will provide information on lifelong health care and general health education and support for the local Health Practice Movement.

The lifelong health care program will provide health care services for people of every age group and those in various risk groups, such as newborns, adolescents, and the elderly, as well as pre- and post-natal care and nutrition information programs. The model health center will also provide nutrition information, in addition to services like health counseling and examinations and fitness education. A total of five new staff--a physician, health education, fitness specialist, nutritionist, and nurse--per model health center will be needed to work with current local health center staffs. A national task force must also be established to initiate the model health center for health promotion program. Members of this task force should be composed of staff from the Ministry of Health and Social Affairs and KIHASA. Provincial health departments should provide administrative support

3. National Health Practice Movement

Another measure toward national health promotion is initiation of a National Health Practice Movement. The National Health Practice Movement should include health education classes at health centers, awareness placards, posters, and leaflets, street campaigns, a national health day and month ceremony, and health seminars and symposiums. The national movement should complement local health promotion programs. Local programs should target nearby residents, schools, and industries to become the center for accurate health information to the surrounding community and promote healthy lifestyles and illness prevention. The goal of these educational and awareness-raising activities is to encourage voluntary citizen participation in healthful living practices.

An Association for Health Practice should also be organized to help initiate and continue to support the National Health Practice Movement. The association should be composed of citizens, school and industry officials, and heads of health centers.

4. Development of Health Education Materials

A KIHASA research team has developed health education materials from information gained at seminars at which professionals in related fields provided advice on current health education materials. The materials developed are limited due to funding constraints, but so far include two booklets, two pamphlets, a leaflet, a poster, two sets of slides, and a set of transparencies.

5. Curricula and Textbooks for Staff Training

Staff will need to be retrained to effectively carry our their new tasks in the health promotion program. New roles and tasks will have to be assigned to health care managers, practitioners, and workers.

6. Information Management System

Efficient operation of the health promotion program will also require an information management system to organize and store individual health information, perform computer analysis of individual health status to determine the appropriate health services, and produce statistical indexes for evaluating the health promotion program.

7. Development of a Program Management Plan

A program management plan that details provisions for personnel, funding, facilities, equipment, and service structure is needed for the successful implementation of each model health center for health promotion. Baseline data that officials from KIHASA and the Ministry of Health and Social Affairs collected can be used to draw up the program management plan as well as the plans for the lifelong health care program and Health Practice Movement.

The Plan of the National Health Examination Survey

by Soon-young Lee and Seon-woo Kim

Background and Purpose

Exact data is needed to pinpoint current health problems, evaluate the effectiveness of current policies, and plan future policies. We know the number of persons with chronic diseases has been increasing since 1970 and deaths caused by chronic disease now comprise over two-thirds of all deaths. However, we lack reliable data on the prevalence of chronic diseases. We can estimate the size of prevalence roughly using medical insurance data, patient survey data, and health interview survey data, but the most accurate figures can only be obtained through a survey specifically designed to measure the prevalence of chronic diseases. Obtaining this data is crucial to developing health policies related to the prevention and care of chronic diseases.

The purpose of this study is to develop the basic framework and contents of a the First National Health Examination survey. As they are becoming more widespread, we recommend the first survey focus on determining the prevalence of certain chronic diseases. In designing the survey, we referred to health surveys and related literature in the United States and Japan. We also visited the Division of Health Examination Statistics in the National Center for Health Statistics in the U.S. and a field office and Mobile Examination Center in Lima, Ohio, where the Third National Health and Nutrition Examination Survey is in progress, to obtain advice on carrying out Korea's first National Health Examination Survey. We also consulted with experts in preventive medicine, clinical pathology, statistics, and public health for the framework, contents, and statistical design of the survey.

Results

1. World Survey Trends

Many nations are conducting population-based health surveys by the resident based on field or record surveys. Recently, countries have also been attempting to conduct surveys to determine the prevalence of undiagnosed diseases and risk factors for certain diseases. The World Health Organization (WHO) supports their efforts through the WHO Collaborating Center for Health and Nutrition Examination Surveys. The U.S. has been conducting such surveys on a large scale since 1960. Germany, Switzerland, England, Australia, Hungary, and Sri Lanka are conducting health examination surveys that focus on cardiovascular diseases.

2. Basic Survey Framework

2.1 Guidelines

- Develop the survey at the government level.
- Focus the survey on determining the prevalence of certain diseases and the health status of the population. Survey methods may include health interviews, clinical tests, and medical examinations by a doctor, but the survey approach should be epidemiological rather than clinical.
- Widen the contents and scope of the survey in stages. The first survey should determine the prevalence of diseases that are the least controversial.
- Related government ministries, health centers, and non-government agencies should cooperate and give support in the execution of the field survey.

2.2 Purpose

- Survey results should provide reliable, population-based data on the prevalence and trends of certain diseases that can be used in setting priorities and goals in national health policies.
- Survey results should also provide a standard distribution of health

index and epidemiological data that will be useful in developing disease prevention and health promotion programs and establishing government health policies.

3. Contents

We considered the needs of public health officials and academic researchers in deciding the contents of the survey. Contents of the First National Health Examination Survey should be designed to obtain accurate figures on the prevalence of hypertension, hyperlipidemia, diabetes, and hepatitis B; figures for the population distribution of hypertension, glucose, lipid profile, hepatic enzyme, hepatitis C antibody, basic blood components, and lead; and physical measurements of the population.

4. Target Population

Adults aged 30 to 69 years should be targeted for the First National Health Examination Survey with the age range widening in future surveys.

5. Scope

Two hundred districts sampled by probability stratified cluster sampling methods will be surveyed. Approximately 100 persons will be interviewed per sample district.

6. Period

The survey will be conducted over a period of five years, though in actual time, it will take three years: a year each for preparation, field surveying, and analysis.

7. Methods

The survey should consist of a household interview and a clinical examination. In each sample district, field surveys will take ten days: seven days for the household interview survey and seven days for the clinical examination, with the clinical examination beginning on the

fourth day of the household interview. Eight mobile examination centers employing ten persons each will be operated at different locations to conduct the field survey.

8. Policy Contributions

Survey results will provide figures on the prevalence of chronic diseases, such as hypertension, diabetes, and hepatitis B, and determine characteristics of risk groups. This information will help in increasing the early detection of chronic diseases and in developing effective prevention and control policies.

Future Plans

For the preparation of future surveys, a task force must be organized to develop the plans in detail. This task force should consist of experts from the Korean Medical Association and in the fields of statistics and public health. A system for cooperation among institutions that can support or use information gathered from this survey should be arranged. A pilot survey with a small sample size and specific contents and methods will help in evaluating the response rate, standardizing data collection and examination procedures, and adjusting the contents of the survey appropriately. Once established, the survey will be more effective if simultaneously conducted with other health surveys, such as the health interview, tuberculosis, and nutrition examination surveys.

The Sample and Design of the 1994 Patient Survey

by Hoon-bang Kye, Se-rok Doh, Chang-woo Shin

Purpose

Since 1988, the Ministry of Health and Welfare has been conducting a binannual survey of patients to obtain information on hospital personnel, the number of in- and out-patients, frequency of diseases and injuries, etc. The purpose of this study is to provide a suitable sample design and questionnaire for the 1994 Patient Survey.

Methods

To arrive at a sample design, we used estimations provided by the top administrative units of Shi and Do provinces as basic items. We selected a sample size of no more than 7,000 institutions and less than 70 sample institutions per health center, then studied sampling techniques to reduce errors. Our questionnaire format was reduced to size B4 and questions were framed in such as way that responses would not be misunderstood.

Results

1. Evaluation of the Sample

The basic file consisted of 30,256 institutions nationwide. Information from computer files of medical institutions in the Medical Insurance Management Corporation was used. All large-scale institutions (general hospitals, hospitals, dental clinics, and traditional medicine clinics) were surveyed. There were 995 large-scale institutions, and they comprise 4% of total health care institutions. According to results from the 1992 survey, these institutions serviced 81% of all out-patients and

18% of all in-patients. Of 29,261 small scale institutions (clinics, health sub-centers, primary health care posts, and midwifery clinics). 1,224 were initially selected for the sample because they had special characteristics. The remaining 27,649 institutions were grouped according to type, then 4,233 more institutions were selected for the sample.

Table 1. Population and Sample Size by Stratum

Institutions	Strata	Population	Sample
General hospital	110	250	250
Hospital	120	374	374
Special hospital	121	37	37
Dental hospital	130	7	7
Oriental medical hospital	140	58	58
Medical center	150	15	15
Health center	160	254	254
Clinic		(13,546)	(3,611)
- complete selection	210	1,425	1,425
- sample selection	220	12,121	2,186
Health sub-center		(1,297)	(363)
- complete selection	510	26	26
- sample selection	520	1,271	1,271
Primary health care post		(2,041)	(385)
- complete selection	610	30	30
- sample selection	620	2,011	355
Midwifery clinic		(231)	(168)
- complete selection	710	103	103
- sample selection	720	128	65
Total		30,256	6,840

2. Questionnaire Format

The questionnaire was designed to be simple. Instructions were added so answering the survey would be clear to respondents. Items that caused problems in the production of statistical tables were deleted.

Ⅱ. HEALTH ECONOMICS RESEARCH

National Health Care Cost Accounting: Its Structure and How to Improve it

by Hwa-jong Baek and Jeong-kee Hong

Background of Research

Fast economic growth and the magnification of the concept of health and medical services has led to an increased requirements for medical services and their improvement. Imminent socio-economic and demographic changes, such as the expansion of medical insurance coverage, increasing numbers of elderly living longer, a plan to join the Organization of Economic Cooperation and Development (OECD), and the drive toward globalization, will only intensify this growing requirements. Thus, research in the health and medical service fields is urgent. However, before research can be conducted, consistent data on health and health-related expenditures must be collected. Unfortunately, we lack this information.

Methodology

National expenditures for health care should be estimated at regular intervals using a standardized accounting framework. The system must also be flexible enough to reflect variations in the relative importance of types of expenditures due to socio-economic changes and improvements in technology, such as the development of new medical services and instruments. Accounts should be adjusted whenever there is a socio-economic or demographic change or a change in government policies. National health accounts should show not only sources of funds and types of services, but total health care costs. The account structure should be such that it shows how different types of service relate to each other. It should also be flexible enough to accomodate

socio-economic changes as they occur, depending on the data available.

Results and Utility

Standardization of national health care cost accounting will provide essential information that can be used in studies of Korea's health care system and for understanding changes in the health care sector in relation to the national economy because it can provide information about the structure of the health care system by showing expenditures for types of health services at any point in time. We can use this information to see if the health care sector if services being offered meet requirements.

Columns in the national health accounts matrix should classified according to fund sources and cell blocks should contain amounts received from each source. Comparison of data for different, but equal intervals can reveal changes in amounts spent for categories of expenses. The development of satellite accounts should be considered so they may be used as a supplementary data source. We recommend categorizing the satellite accounts by type of disease or age, but they can also be categorized according to type of medical facility or institution, such as general hospital, insane asylum, hospice, nursing home, etc. We also recommend having an Input-Output table for the entire health care sector and a "Total Health Care Cost Account" that includes total expenditures and total revenues as well as a breakdown of expenditures by types of services and sources of funds.

In many studies of national health care expenditures in the past, estimates were made from information provided by health care institutions. Estimation is used when the data available does not fit the accounting framework being used. As data is sometimes difficult or tedious to collect, using estimation as a short-term alternative is acceptable. However, it is important to develop data sources according to the long-term accounting objective and framework, though we will still need to extrapolate data from sample survey responses. Estimation is also problematic because obtaining data in the same format in the

future may not be possible. Receiving data in the same format requires government offices to link with one another. For instance, in some past studies, data on local government expenditures on medical assistance and public health activities in the Financial Yearbook of Local Government could not be utilized because of classification differences and inconsistencies in estimation. Statistics collected by local governments are useful as a source for aggregated national statistics only if they are similarly classified and collected.

As local governments become autonomous, the roles and functions of the local and central governments will change, with many rights and responsibilities being transferred to local governments. Then, statistics collected by local governments that are used to arrive at aggregated national statistics will be even more important. Without infringing on local governments' autonomy, the central and local governments must agree on the collection method and framework for data to prevent hoarding of data or confusion due to the differing classification and collection procedures.

Policy Recommendations to Foster Growth in the Korean Pharmaceutical Industry

by Eui-kyoung Lee, Jaegoog Jo,
Won-joong Kim, et al.

Introduction

Changes in the international economic environment, such as the opening of markets and amendment of commercial treaties, affect our domestic pharmaceutical industry. As institutional import restrictions are relaxed, the market share and competition pressure of imported medicines are expected to increase, whereas exports are expected to remain at a limited level, at least for a while. Thus, international competitiveness of the pharmaceutical industry emerges as an important issue. In this study, we evaluate the current status and problems of the pharmaceutical industry, then offer proposals for its future growth and productivity.

Current Status and Problems of the Pharmaceutical Industry

The Korean pharmaceutical industry is far behind the international pharmaceutical market in terms of market structure and business situation, among other factors. Most pharmaceutical companies are small, and investments in research and development are also small, so the ability to compete internationally and the consequent trade imbalance worsens. Since 1990, joint-venture companies and business group-affiliated drug firms have increased in performance.

The market value of the pharmaceutical industry in Korea reached 4,900 billion won in 1993, and the market for ethical drug products was ranked 10th in the world market with a share of 1.6%. However, domestically, the market share of over-the-counter (OTC) drugs in 1993,

58.25%, was higher than that of ethical drugs.

Korean pharmaceutical production has increased over 20% almost every year over the past 20 years, comprising 1.8% of GDP in 1993. This figure is higher than the U.S. contribution of 0.94% and Japan's 1.27%. While over 95% of drugs consumed in Korea were produced domestically, more than 50% of the materials used to make these drugs were imported. Such imports were 1.9 times greater than exports (264.1 billion won).

The distribution of drugs domestically is chaotic because of excessive competition among small-scaled drugmakers and distributors and the oversupply of me-too drugs. This results in confusion about drug prices and a general increase in overhead costs.

Profit margins of domestic pharmaceutical firms is low compared with that of international companies and has been getting worse since 1990. Lack of capability to develop new products is the major cause, followed by general economic depression, and the fact that many pharmaceutical companies have excessive non-operating expenses, such as advertising and promotion costs and rebates. Currently, pharmaceutical companies spend only 3% of their resources on R&D, while they spend 8% on advertising. Consequently, R&D departments are short-staffed and lack adequate facilities.

Prospects for the Pharmaceutical Industry in a Changing Environment

According to Japan Pharmaceutical Manufacturers Association's forecasts, the value of the world drug market will grow to about $300 billion by the year 2000 because the requirements for drugs is expected to increase as people age and live longer. Enforcement of social security policies in developing countries will also likely increase requirements for drugs. In Korea, national income growth, greater numbers of elderly, and expansion of the medical insurance program will also increase the requirements for drugs. On the other hand, government cost-containment measures and distribution channel improvements are expected to reduce requirements.

As the domestic and international environment for pharmaceutical products changes, the Korean pharmaceutical industry must reorganize and adapt to remain competitive. Drugmakers should be divided into R&D-based companies, generic drug companies, and OTC drug manufacturers. On the other hand, they will also undergo a series of mergers or collaborations. R&D-based pharmaceutical firms can specialize their products according to therapeutic categories. Among OTC drug manufacturers, keen competition is expected, and companies that can differentiate their products or mass-produce specific products, will have a competitive edge.

Policy Directions

The pharmaceutical industry is a technology-intensive industry that makes a valuable contribution to our economy. If Korea is able to develop innovative drugs that are safe and effective, high profitability of pharmaceutical products could make drugs a major export industry. To encourage such development, efforts must focus on research and development. Korea should also try to produce domestically as many drugs as possible, given that the supply of medicine is directly related to people's health.

Strategic Measures

1. Remodel the Ministry of Health and Welfare after the U.S. Food and Drug Administration. Recruit experts for drug approval and quality control. Establish a computerized information management system to maintain databases of drugs tested and approved.
2. Without sacrificing safety or growth of the pharmaceutical industry, relax restrictive regulations that hinder the competitiveness of the industry, such as entry barriers to the market. Strengthen regulations that insure safety and effectiveness of drugs in accordance with drug properties, e.g. ethical drugs vs. OTC drugs. Restrictions on OTC drugs can be relaxed as their safety and efficacy are proven.

3. Restructure the pharmaceutical industry by separating the manufacturing and marketing functions and establishing wholesalers. A drug price incentive system should be introduced to secure R&D investment for innovative new drugs and products. Excessive sales competition should be also controlled by stabilizing retail prices of drugs gradually.
4. Encourage investment in research and development, Government can increase its direct financial support, offer soft loans to R&D institutions, and provide incentives to private investors. Increased investment will allow for the appropriate facilities to be built and technical expertise to be obtained. Retraining for current pharmaceutical workers will also be required.
5. Promote closer cooperation in research activities with the Ministry of Health and Welfare, other government agencies, universities, public research institutes, and private companies so technology and knowledge from other fields can be applied to R&D of pharmaceutical products. A research evaluation system and R&D planning team are also needed.
6. Support joint research projects and ventures with advanced countries to develop new technologies and knowledge. Establish an information system on overseas pharmaceutical markets.

Policy Measures to Institute Good Clinical Practice Standards in Clinical Trials of Drugs

by Eui-kyoung Lee, Sun-mee Chang,
Byung-joo Park, et al.

Introduction

Clinical trials of drugs on humans are the final and most important stage in evaluating the safety and efficacy of drugs. Many countries have adopted Good Clinical Practice (GCP) regulations during clinical trials to protect testees' rights and security as well as ensure the empirical soundness of the trials. In 1987, Korea announced that it had drafted a GCP law, but implementation of the system has been delayed because related agencies and researchers lacked understanding of why the law is necessary and institutions conducting clinical trials are ill-prepared to comply with the standards. At the same time, a recent increase in production of new drugs by domestic pharmaceutical companies has led to an increase in the number of clinical trials performed. Before these drugs can enter the world market, there must be sufficient clinical evidence of their effectiveness to gain the required official approval. Introduction of GCP standards in Korea is necessary not only to protect the people's security, but to strengthen the international competitiveness of Korea's pharmaceutical industry.

This study evaluates the readiness of institutions to abide by GCP standards when conducting clinical trials and determines effective measures for instituting Korea's GCP (KGCP) standards.

The Status of Clinical Trials

The Ministry of Health and Welfare has designated 83 hospitals clinical trial institutions. From 1990 to 1994, 39 of them conducted clinical trials to obtain drug manufacturing licenses. During that time, 131 clinical trials were conducted, 28 cases per year, and 124 trials

(94.7%) were in the last stage of clinical trial, Phase III.

Only 46.8% of the institutions had sufficient human resources, such as pharmacologists and statisticians, to perform the clinical trials. Few institutions had separate facilities for exclusive use of clinical trials. In 96.1% of the institutions, existing facilities were used as beds for drug testees, and in 63.3%, existing facilities for patient treatment were used as laboratories. Less than thirty institutions had pharmacists designated as supervisors to keep records of receipts, use, and disposal of the trial drugs. Only twenty institutions provided educational programs, such as seminars.

KGCP standards require clinical trial institutions to establish an internal Institutional Review Board (IRB) to review proposed clinical trials and check trials in-progress to ensure that the rights and welfare of testees are protected. Thus far, IRB standards have been established in 41 institutions (51.9%), but only 21 have an Adverse Drug Reaction (ADR) reporting system, and only 12 have protocol evaluation guidelines.

Of all clinical trials, 97.4% had high rates of obtaining prior consent from testees, but on average, only 61.7% of testees gave written consent. In 1994, the acquisition rate of written consents increased to 95.3%. Consent forms should contain information on the aim and methods of the trial, possible effects and side effects of the drug being tested, and confidentiality rights of the testee. However, most were found not to contain information on testee privacy and confidentiality.

Almost ninety per cent of testing institutions offered their drugs free of charge as compensation. Other methods of compensation were exemption of examination fees (12.2%), exemption of hospital charges (1.7%), and actual payment (7.8%).

Almost sixty per cent of all trials conducted were monitored by the pharmaceutical companies that developed the drugs, but only sixty per cent of the companies asked for medical records during monitoring.

Evaluation of GCP Implementability

Only 23 institutions would be able to meet the requirements of

KCGP at this time, but by September 1995, the date KGCP will be enforced, 60 of the 83 hospitals are expected to be better able to meet the standards.

Many institutions are currently unable to meet the lesser requirements of GCP, which focuses on research methodology and human rights. We discovered that 42% of the institutions had no experience conducting clinical tests. Most clinical trial institutions are training hospitals with residency programs. Institutions must build the appropriate infrastructure, including education programs and IRB standards, and government must prepare to strongly enforce GCP before it can successfully take place.

Measures to Introduce GCP

1. Enforcement of Inspection and Monitoring

The first step in improving the quality of clinical trials is for institutions to strictly enforce its own internal quality controls. Next, government inspection and pharmaceutical companies' monitoring of clinical trials must be tightened. For this to happen, government must establish guidelines and standards for the Institutional Review Board (IRB) to follow. Government must also ensure that inspectors are qualified for this task. Pharmaceutical company representatives monitoring clinical trials should also be educated in order to be qualified. Lastly, government should require companies to monitor clinical trials of drugs they produce.

2. Protection for Testees

Government requires testees' prior written consent to protect their rights. However, obtaining written consent has been a barrier in starting clinical trials and developing new drugs. Separate regulations should be made about obtaining written consent according to trial phases. Written consent is necessary in Phase I and pre-Phase II of drug trials, during which the safety of drugs is evaluated. However, in post-Phase II and Phase III, during which the effectiveness of drugs is

evaluated, oral consent should be allowed.

In addition, hospitals should establish an adverse drug reaction (ADR) system and detailed procedures should any unexpected incidents occur. Government should begin collecting ADR monitoring reports. Clinical trial institutions should also carry insurance to compensate patients' for damage caused by side effects of the drugs being tested.

3. Establishment of a Central Control Center

A central control center that coordinates trials being conducted at multiple centers would help improve the quality of clinical trials. Research designs and methods should be standardized among the multiple centers, and study results analyzed similarly among all the centers. The central control center can also provide clinical education and be a resource for information on drugs and drug testing standards.

4. Improving the Infrastructure of Multiple Centers for Clinical Trials

In addition to proper facilities, expertise in research design and analysis are needed to improve the quality of clinical trials conducted at multiple centers. Specialists for these areas, such as statisticians and clinical epidemiologists, must be recruited. Government and other related research and science organizations can help by publicizing and educating such professionals about GCP and KGCP. Government can help promote quality clinical trials by providing research funding.

Policies for Developing the Processed Food Industry

by Won-joong Kim, Sang-young Lee,
Hye-ryon Kim, et al.

Industry Profile

With 19 trillion won (U.S.$24 billion) worth of goods produced in 1992, processed food items comprise approximately eight per cent of all products manufactured in Korea. While literal production figures remain high, relative importance of the processed food industry is decreasing as consumers in our growing economy expend smaller and smaller portions of their income on food. Dairy, seafood, and grain products make up the largest proportions of food processed. Consumption of dairy products has grown notably fast in recent years, so this subsector is expected to become the largest in the food industry.

As consumption of processed food products does not fluctuate widely and most of the products are consumed within the nation, this industry can be called "stable and domestic." It can also be called an oligopoly because of more than five thousand firms, one per cent produces a quarter of the products consumed. Small firms employing fifty persons or less produce only 1.5% of all products consumed, while they represent 84% of total manufacturing firms. Production is even more concentrated within a few firms when the industry is classified in subsectors.

Profit margins in the industry are relatively low. The average operating margin for food processors was 5.3% in 1992 compared with 6.6% for all manufacturers. The ratio of total debt to total assets is 452.9%, while the ratio of current assets to current liabilities is 81.2%. For all types of manufacturing, these ratios were 319.7% and 92.8%, respectively. Also, on average, companies spent more of their revenues, 2.8%, on advertising than the average for all manufacturers, one per cent. Food processors market their products by "differentiation through

advertising", a strategy common in oligopolistic markets. On the other hand, expenditures for research and development were considerably lower in the food processing industry than in other industries.

Policy Directions

Policies for developing the processed food industry should focus on cooperation with the agricultural sector, as the cost and production of raw materials is critical to processed food manufacturers. As this industry currently does not pose a great threat to public safety and does not generally experience market failure, government regulations and subsidies should be minimized, as all forms of government intervention should be in a free market economy. Excessive regulation is also not strategically necessary, as processed foods are not a major export item.

Policy Recommendations

1. Deregulation

To increase competitiveness and efficiency, regulations on business activities, such as entry, pricing, and investment, should be lifted or eliminated. For instance, regulations on land acquisition should be reconsidered when a company plans to use the land for research or storage purposes. Excise taxes on soft drinks and sugar should also be removed. Government should encourage the private sector to invest in research and development (R&D) of processed food products and spend less on storage and distribution.

2. Government Support of R&D Investments

As indicated earlier, the food industry as a whole is not likely to receive top priority for government support, but certain subsectors merit consideration. Although significant in terms of market size, dairy products are vulnerable to competition by incoming foreign products that are cheaper and technologically superior. On the other hand, traditional foods, by nature, have an advantage in price and superiority and can be

developed into leading export items. Increased production of traditional foods is also likely to stimulate our own agricultural sector. The health food subsector also deserves attention because of its potential for profits and positive noneconomic effects. R&D investment will be necessary for these industries to survive and grow. Rather than direct subsidies, we recommend that government provide businesses with incentives to make such investments.

3. Encouraging Vertical Integration

Government should encourage integration in the distribution of processed food products. Though there are disadvantages to integration, with the advent of large-scale foreign companies entering the market, domestic manufacturers must enlarge the size and scope of their businesses. Integration can also reduce transaction costs, such as information and contracting costs. Government should consider the relaxation of regulations regarding vertical integration of food manufacturers.

Reallocating Health Resources for Maximum Utilization

by Dong-kyu Kim and Eun-joo Kim

Purpose and Methods

The purpose of this study is to discover methods for the efficient reallocation of limited public health care resources. Currently, many public health centers, especially those in rural areas, are underutilized, with rural residents bypassing local medical services for larger hospitals in urban areas. Such underutilization of existing facilities is wasteful and hampers regional self-sufficiency.

The three factors in underutilization of public health centers in rural areas are: (1) socioeconomic background of the patients; (2) equipment and resources of local health centers; and (3) severity of diseases treated. In this study we use factor analysis and multiple logistic regression to examine data and make recommendations.

Our goal was to evaluate the resources of each regional health center and develop guidelines for the equal availability of medical services among districts. We were able to determine the relative availability of medical services in each regional health service district by classifying them according to social and economic factors associated with their respective medical environments.

Findings

We found that people in the districts of Chungbuk, Chungnam, and Kangwon often sought medical services in Kyonggi and other neighborhood districts. Health centers in Chungbuk district were especially underutilized, lacking in patients as well as medical supplies. Also, those with longer hospital stays were more likely to bypass local health services.

The three factors of bypassing regional medical facilities in health service districts are found as patient's socio-demographic characteristics, medical resource of 140 health service districts, and patient's morbidity characteristics. The maldistribution of health resources in health services districts causes serious effects, particularly worse in small towns and rural areas. Here we developed the methodology for optimum allocation of health resources by health service district to solve of regional maldistribution of medical facilities and manpower, to seek efficient utilization of limited health resources, and to raise accessibility of regional residents to health resources.

The result of this methodology would be used for study of regional balance of medical supply without any information of medical demand of health service districts, for identifying the difference and association of medical facility level of each health service district.

Recommendations

1. Rearrange the existing 140 health service districts into megalodistricts with health facilities based in cities.
2. Plan political support for medical supplies to health centers in Kangwon, Chungbuk, and Chungnam districts.
3. Make necessary investments to modernize medical facilities and provide high quality care, including at medical schools in rural areas.
4. In making policies of medical supplies, expect some bypassing of regional health centers for larger hospitals. For example, in this study, we found medical services were more utilized in the Seoul-Kwachon district and so it is reasonable to consider bypassing rate in that district.
5. Consider not only regional health resources, but regional morbidity and social demography in making policies on medical supplies.
6. Manage medical facilities according to regional groups that have similar health resources. Health resources should also be efficiently managed through the development and implementation of health resource indices for each medical facility.

Ⅲ. SOCIAL INSURANCE RESEARCH

Social Security Financing: Prospects and Policy Implications

by InChul Noh and Soo-bong Kim

Objectives

The objectives of this research are: 1) to examine Korea's social security level; 2) to analyze the impact of social security expenditures on income redistribution and economic growth; 3) to estimate social security finances, and; 4) to try to identify a fund raising scheme.

Major Findings

In this study, a time-series estimation of social security finance from 1962 to 1993 was made. Total social security expenditures were approximately 8.454 trillion won (3.5% of GNP), or 192 thousand won per person as of December 1992. The proportion of social security expenditures were less than 2% of GNP before 1981, then increased to 2% later, to 2.7% in 1989. This rate accelerated after a universal health insurance scheme was implemented in 1988; in 1993, expenditures made up 3.7% of GNP.

Social security expenditures include social insurance, public assistance, including aid to veterans, and social welfare services. Percentages of expenditures in each category were 15.8%, 40.2%, and 3.2%, respectively in 1962. In 1980, the percentage spent for social insurance increased to 64.5%, while that for public assistance decreased to 31.8%, and the social welfare services made up 3.2%. In 1990, public assistance expenditures declined, while social insurance expenditures increased dramatically: 72.7% of social security expenditures were made for social insurance, 20.2% for public assistance, and 7.1% for social welfare services. With the implementation of a universal pension plan and unemployment insurance in 1995, social insurance expenditures will only increase.

This study attempts to identify whether Korea's financing of social security meets the minimum requirements for a welfare society. It compares income levels of people in Korea to those in other countries and measures the degree to which Korea has become a welfare society through comparison with other countries' social security expenditures.

Future social security financing is estimated based on cross-sectional data of social security expenses, income levels of various countries, and the finance and expenditure volume required to reach the average level of developed welfare societies. The following issues were also considered in estimating future financing: 1) allocation of financial responsibility between the central government and the private sector; 2) the financing volume of the central government and prioritization of expenditures; 3) enforcement of the general tax or introduction of a special tax for financing, and; 4) the relationship of social security and economic growth.

In conclusion, this study contributes not only to providing basic data for establishing a social security system and budget, but in influencing the public's and policymakers' ideas on social welfare.

Effective Management of the National Pension Fund

by Chul-gi Ko, et al.

Objectives

The national pension fund is expected to increase in geometrical procession, with payments estimated to reach 200 trillion won in 2019, at which point the fund will operate at a deficit and could become completely depleted by 2020. The national pension fund must be more effectively managed to prevent this possible catastrophe. This study makes suggestions for such improvement.

Major Findings

Effective management of the national pension fund would make information available to the public, be profitable, and minimize risk. Funds should be invested in social infrastructure, privatized public businesses, and the welfare sector. Social infrastructure investments should be made in the interest of the country's welfare, be long-term, and bear a legal interest rate. Investment in privatized public businesses should not negatively impact profitability or the capital market. Businesses that contributed to national economy should be invested in. Investment in the welfare sector should consider the various needs of workers, the elderly, children, and the disabled, and proportions of investment toward each group should be 40, 30, 20, and 10 per cent, respectively. Such investments can be classified into capital loans or investments to establish and manage facilities.

Improving the Fee Contribution System of Regional Health Insurance

by Gi-ok Kim, InChul Noh, Mi-nyeo Ryu

Objectives and Methods

As of January 1995, government integrated 33 cities and 32 counties into new 33 cities so regions were more evenly balanced in terms of economic development. As part of the administrative changes, regional health insurance societies that have been managed differently by cities and counties will be integrated into city insurance societies. The purpose of this study is to identify problems in the current fee contribution systems and investigate ways of improving the system in the newly integrated cities. To this end, we analyzed the present fee contribution data of regional health insurance societies that are targeted for integration.

Recommendations

1. Standardize fees among the new city insurance societies. Currently, remuneration systems differ among city and county insurance societies.
2. Institute a discriminative insurance fee system in new city insurance societies like that currently being used in city insurance societies. Basic insurance fees and fee systems per household can be abolished, and the deficit would be compensated; those in lesser insurance grades will have a lower contribution rate, but those in higher insurance grades will make a larger contribution.
3. Fees charged at the new city insurance societies should be higher than that currently charged by city insurance societies, but lower than that currently charged at county insurance societies.

West German Policies for Managing Division and Income Security Policies after German Unification

by Jin-soo Kim

Background and Objectives

In considering the possible reunification of North and South Korea, Germany provides us with valuable information on unification's costs and effects. West Germany established policies before, during, and after unification. Policies established before unification managed division. Likewise, the establishment of policies to manage division between North and South Korea could improve the relationship between South and North Korea, encourage the migration of North Koreans to South Korea, minimize social disturbances during the unification process, and lay a foundation for the development of unified Korea. Though many measures were taken at great expense to ease the process of unification, there were many undesirable after effects. Here, we study and evaluate income security policies established after reunification to maintain people's standards of living.

Results

The sudden and all-encompassing unification Germany experienced seems to have been inevitable, rather than a matter of choice over a more gradual, moderate approach. At the inception of reunification, national borders were opened and many East Germans migrated to the West where incomes are higher. The social disturbances and labor shortages East Germany experienced shortly thereafter could have been prevented had the West and East German economies been initially managed separately, then merged gradually after reunification had begun.

Though West German government officials downplayed the burden of reunification to ensure their re-election, the after-effects have been more grim than expected. Massive unemployment and a slow economy continue in what was formerly East Germany. There has also been an unexpected psychological conflict between West and East Germans. East Germans have difficulty adapting their thinking and West Germans are dissatisfied with their increasing financial burdens since reunification.

1. Relief Policies for East Germany Before Unification

1.1 Policy of Managing Division of West Germany and East-West Relationship

The relationship between East and West Germany during their division has been mixed with cooperation, confrontation, and competition. In politics, secret bargaining and payments have resulted in 33,755 political offenders being released from East Germany. Also, 2,000 children have been sent to their parents, and over 250,000 family members reunited, costing West Germany a total of 3,464,000,000 DM. There had been much cooperation in the areas of culture and sports and among religious organizations.

In trade, West Germany was East Germany's largest trade partner after Russia and Czechoslovakia, while trade with East Germany accounted for only 1.5% of all West Germany's foreign trade during the 1980's. Also during that time, money loaned to East Germany comprised only 0.55% of all foreign loans West Germany made. West German policies for managing division consisted of assistance as well as tolerance and concession. The accumulated exchange between East and West Germany resulting in the dependency of the East German economy on West Germany became the basis for unification.

1.2 Stages of East German Migration to West Germany

From 1945 to 1961, the end of the Second World War to the erection of Berlin Wall in 1961, migration of East Germans to West Germany had been continuous, despite occasional interceptions by East

Germany. From 1961 to 1989, legal migration was limited to qualifying pension beneficiaries. Before the huge migration that occurred just before unification in 1989, East Germany completely blocked its border. After borders were opened in 1989, the consequent massive migration to West Germany was an impetus for reunification.

An Emergent Accommodation Law was enacted to permit migration only of people politically oppressed in East Germany, but it was ignored. A Refugees' Assistance Law was also established to extend coverage of assistance not only to those living in East Germany, but to East Germans migrating to other countries. Relief measures for East German immigrants have been executed in two stages. In the first stage, assistance was provided primarily to East German immigrants living in accommodation facilities just after migration. In the second stage, assistance was transferred to local governments, considering their capacity to accommodate immigrants.

Social insurance is a very important policy as West Germany's social security system is centered around the principle of social insurance. This principle has also been applied to those in East Germany after unification.

2. Relief Measures for the former East Germany After Unification

2.1 Characteristics of Emergency Relief Measures

Since November 1989, when the borders were first opened, emergency relief measures have provided assistance directly to East German residents. The primary objective of these measures was not merely to boost the East German economy, but shift it to a market economy. Relief measures were directed at East German workers and those on fixed incomes, such as pension beneficiaries and children receiving social security payments. The Unified German government guaranteed workers' income through labor market policy, and modified its social security system to one like that in the former West Germany. These relief measures brought about a huge financial burden.

2.2 Labor Market Policy

Unemployment has increased enormously. Contributing factors have been the rapid reduction of industrial production in former East Germany after unification, upvaluation of East German currency during the currency integration process, wage increases, and the collapse of the Eastern European export market. The newly unified government had a dual burden because the short-term unemployment policy and long-term, economic activation policy were executed simultaneously after unification.

2.3 Social Security Policy

Social securities policies of the former West Germany have been adopted by for a unified Germany. Given the difficulty of this change, term of coverage has been extended, eligibility requirements have been relaxed, and allowances levels have risen.

Policy Implications

Though German unification is largely the result of successful diplomacy, policies West Germany enacted to manage division also played an important role. Germany's experience implies that Korea would do well to establish a policy during division that builds up mutual confidence, rather than perpetuating a competitive relationship based on comparative advantages.

Economic assistance provided to East Germany by West Germany was also an important factor leading to unification. After unification, this economic exchange also helped to prevent the bankruptcy of East Germany and reduce the economic gap between East and West Germany. Finally, mutual confidence between East and West Germany resulted from endurance and tolerance. We recommend South Korea improve its relationship with North Korea by providing economic assistance.

Ⅳ. SOCIAL WELFARE RESEARCH

Status of the Disabled and Policy Issues

by Ok-hee Park and Joong-don Kwon

Objectives and Methods

This research examines the status of the disabled in Korea. Through this examination, we located areas in welfare policies for the disabled that need to be improved and make recommendations for their improvement.

To gain insight on the living conditions of many disabled persons, we examined information from the Report of the 1990 National Survey of Disabled Persons. For analyzing current welfare policies for the disabled, we researched materials from related ministries, such as the Ministries of Health and Welfare, Labor, and Education. In order to prepare for a 1995 survey of the disabled, we used information from the Disability Statistics Database (DISTAT) and information provided to us, including similar surveys undertaken, from other countries.

Results

Korea conducts a national survey of disabled persons every five years to estimate the total number of disabled persons. In 1991, the estimated number of disabled persons totaled 956,000, with a rate of 22.1 per 1,000 persons disabled. In 1988, the United Nations established DISTAT so information on disability statistics from 55 nations could be shared. According to the information retrieved on DISTAT, common methods for estimating the disabled population are population censuses, household sample surveys, and registration, both one-time and continuous, of disabled persons.

Higher numbers of disabled persons were reported whenever sample

surveys were used as opposed to population censuses. Also, because countries have different definitions for disability, disability rates have ranged from 0.3% to 20.9% of the population. For example, definitions of disability in advanced countries are generally larger in scope than those of developing countries because advanced countries use screening questions to investigate disability rather than impairment. In developing countries in Asia and Africa, surveys usually identify and screen specific kinds of impairments. Thus, disability statistics from different countries cannot be compared without an understanding of the scope and definition of disability used.

We studied eleven factors in disabled persons' lives to develop comprehensive guidelines on improving welfare policies for the disabled. They are: income, employment, medical care, education, housing, cultural life, health care services for those living at home, institutional care, living environment, further disability prevention, and social organizations for disabled persons.

According to the Report of the 1990 National Survey of Disabled Persons, approximately 35% of disabled persons participate in economic activities. Generally, the economic status of disabled persons are lower than that of the general populace. In 1993, 6.7% of the disabled received income supplements from the government. The disabled, as a group, are also less educated than the able-bodied as a whole. Approximately half of all disabled persons need assistance with daily activities.

Recommendations

1. Currently, welfare policies prioritize assistance for low-income, severely disabled persons. While we would eventually like to address the comprehensive needs of all disabled, regardless of income or severity of disability, current funding does not allow so. When it does, assistance should be both quantitatively and qualitatively increased.
2. The definition of disability should be enlarged in scope as in advanced countries to provide as much assistance to as many people as

possible.

3. Services provided to the disabled should be specialized based on age, type of disability, and severity. It will become necessary to combine welfare policies for the elderly and the disabled as people are increasingly falling in both categories.
4. Communities, businesses, and local governments should also take some responsibility for care of the disabled.
5. A central organization should be established to collect information from related ministries on the disabled.
6. Surveys of the disabled should be conducted with especial care as a strong prejudice against the disabled still exists and underreporting is likely.

An Estimation of Minimum Living Cost in Korea

by Sun-il Park, Mi-gon Kim, et al.

Background

As its economy advances, Korea is obliged to enhance the welfare status of its people to a level commensurate with its economic development. Protecting basic living standards is the first and most urgent step in this task. Estimating the minimum living cost (MLC), the monetary expression of minimum living requirements, is important because it is the basis for deciding basic pension amounts, allowances to the poor, and the minimum wage level.

Estimation of the MLC up to now has been heavily biased by researchers' subjectivity. Also, the collected data did not sufficiently reflect consumption patterns of those in the lower-income class. Figures obtained by KIHASA through a nationwide survey in 1988 obviously did not encompass the change in consumption patterns at every economic level after the remarkable boom Korea experienced in the late 1980's. Therefore, new research must be conducted, especially of the lower-income classes, to obtain information for a more precise estimation of current MLC. Also, research methods must be improved so measurements of minimum cost consumption items are not subjective.

Methods

1. Nationwide surveys were implemented twice in 1994. The first, answered by 3,000 households, asked questions related to income and assets. The second incorporated the daily records of sixty kinds of household expenditures in June 1994 and six meals prepared in two designated days.

2. Consumption of all sorts, such as food, housing, medical care, and education, are surveyed and used in estimating each minimum cost.
3. In order to compensate for arbitrariness caused by subjective measurement, other indirect ways of estimation, such as the consumption function, the switching regression model, appraisal of the MLC by those in the lower-income classes, and multiplier methods like the Angel index, are used.

Results

Using the market basket approach, the sum of minimum costs for 10 items equals 356,000 won for a two-person household and 667,000 won for a four person-household per one month. The figures derived at through the market basket approach almost directly correspond with those derived by indirect methods. For instance, the Keynesian consumption function estimates 600,000 won as the MLC for a four-person household. The Switching regression model estimates that a four-person household needs 760,000～796,000 won to live at the minimum level.

However, estimated MLCs by the market basket approach are somewhat lower than the levels of MLC preferred in advance western countries. The proportion of the MLC in large cities is about 57.4% of household expenditures and about 40.9% of household income, which are similar to those estimated in the past. But they are still much behind the rates insisted by Peter Townsend (46～58% of the average income). Therefore, we might conclude that the estimated MLC is a little away from subsistence level.

The MLC for a four-person household can be applied to arrive at an estimated MLC for households of different sizes and characteristics. As a rule, consumption expenditures rise in smaller proportion than the rate of household size because food, furniture, rooms and appliances are commonly used. Also, households with elderly members consume less food, housing services, transportation, and education than those with small children. We readjust the standard MLC in size and characteristics in this context.

Table 1. Minimum Living Cost for a Four-Person Household

	MLC(W)				Proportion			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Food	275,258	278,020	273,470	271,630	41.29	39.06	41.12	47.12
Housing	136,982	170,906	140,176	64,127	20.55	24.01	21.08	11.13
Heat & water	32,482	33,138	32,174	31,489	4.87	4.66	4.84	5.46
Furniture & appliances	26,585	26,875	26,542	26,042	3.99	3.78	3.99	4.52
Clothes & footwear	38,560	38,579	38,579	38,499	5.78	5.42	5.80	6.68
Health care	32.062	32,411	32,411	30,957	4.81	4.55	4.87	5.37
Education & recreation	37,209	39,749	36,094	33,276	5.58	5.58	5.43	5.77
Transportation & communication	33,445	37,925	31,725	26,235	5.02	5.33	4.77	4.55
Others	53,586	53,586	53,586	53,586	8.04	7.53	8.06	9.30
Extra consumption	515	577	350	573	0.08	0.08	0.05	0.10
Sum	666,684	711,766	665,107	576,414	100	100	100	100

Notes: (1) the nation (2) a large city (3) a medium-sized city (4) a rural area

Table 2. Minimum Living Cost Reflecting Household Size and Characteristics

Size	Equivalent scale	MLC			
		(1)	(2)	(3)	(4)
1	0.309	206,402	220,359	205,914	178,455
2	0.534	356,030	380,106	355,188	307,,824
3	0.819	545,729	582,632	544,439	471,837
4	1.000	666,684	711,766	665,107	576,414
5	1.148	765,627	817,401	763,817	661,961
6	1.265	843,445	900,480	841,450	729,242
7	1.351	900,680	961,586	898,550	778,727

Note: (1)～(4) denote the same as the previous Table.

A Study on Korean Burial Customs and Attitudes toward Korea's Current Burial System

by Jong-kwon Lim, Dong-hyon Chang, Hong-sik Cho

Background

At present, burial areas occupy about 1 percent of Korea's total national territory and have increased annually by as much as 9 square kilometers. Available land for tombs is expected to be exhausted within 2 years in the Seoul Metropolitan and within 10 years in all regions if the current increase rate continues. The shortage of burial places results mainly from excessively large private graves space (about 70% of total tombs) and tombs without owners (about 25% of total tombs). Furthermore, since almost all these tombs are located in small hills near the cities, they reduce the availability of arable land and forestry resources. Therefore, improving burial customs and related systems has become recognized as a serious social problem over the last several years in Korea.

Objectives

This study aims at suggesting ways to improve the burial system, including amending related laws and establishing policies for the change of people's attitude. For this purpose, the following are surveyed and designed in regions nationwide: knowledge of burial laws and regulations, attitudes toward current burial system, and reformative ideas of perception of prevalent burial practices.

Method

2,734 individuals are surveyed for six days in 99 sample regions for the whole country, excluding small islands.

Results

1. Most of the respondents (70.7%) are aware of the seriousness of tomb problems. Among those who experienced problems, purchase of burial places was the most difficult one for 48.2 percent of them, while 35.2 percent thought expensive land was most difficult.
2. About half of the respondents (52.4percent) are unwilling to reduce the government-designated average tomb size.
3. Cremation is preferred by 50.1 percent, though only 19.1 percent actually cremate. However, the proportion of those actually cremating will rise because 68.3 percent of the respondents request in their wills. The remainder oppose cremation for various reasons: they believe it is disrespectful to ancestors (30%); they have difficulty discarding old customs (20.6%), and they believe cremation kills a person twice, so they are unwilling to do such to a relative (19.5%).
4. Almost 54 percent responded positively to using an ash preservation room. Almost 63 percent agree to limiting use of burial areas to an average of 17.3 years.
5. Most respondents (73.2%) are diligent about preparing their own tombs in various ways. More than 92 percent of the respondents who had already prepared their own burial spaces (19.4%) had purchased private tombs. Also 70.9 percent hold the traditional belief, called the wind-water geographical theory, that the fortune of offspring depends on the burial state of their ancestors.

Policy Recommendations

1. Efforts should be made to change people's attitudes about burial customs through education, mass media, and exemplary behavior by social elites.
2. Average tomb sizes, which are far larger than those in western countries, should be reduced.
3. Taking into account that cremation was relatively popular as an idea among respondents, actual acts of cremation could be encouraged by compensating those families.

4. A time-limit burial system seems to be feasible, but it should be implemented with greater flexibility for those who insist on longer burial times.
5. A number of luxurious tombs are already built and they are likely to increase. Stronger regulations and penalties are needed to curb such popularity.
6. Most importantly, abandoned tombs that are scattered widely, should be removed or renovated to accomodate new tombs. Corresponding regulations should also be modified more effectively.

A Study on the Management System for Activating Voluntarism

by Hye-kyung Han, Choong-kil Han,
Hyun-seob Chang, Hye-kyu Kang

Purpose

The purpose of this study is to present policy directions on organizing activities for volunteers for social welfare activities, strengthening the education and training of volunteers, and providing institutional support to improve the management of volunteers.

Methodology

This study analyzes the results of major studies previously conducted and other existing material in the private social welfare and public sectors. In this study, a small-scale survey-by-mail about voluntarism in general hospitals was conducted. Voluntarism in general hospitals is an important area of voluntarism that has been neglected in other studies.

Results and Policy Implications

Though many would agree that participation in volunteer activities must increase, the current actual participation rate is estimated at five per cent among Korean adults. These statistics are very meager compared with those of the U.S. or U.K., where about half of all adults take part in some form of voluntary work during the course of a year. Three critical reasons for low participation in volunteer activities are: management system malfunctions; lack of volunteer organizations in the governmental and non-governmental sector, and; insufficient institutional preparation to activate volunteer agencies.

Herewith are suggested three basic principles for encouraging

voluntarism. First, to maximize autonomy and spontaneity of volunteer services, core beings of the management system that are motivating and controlling volunteers should be composed of non-governmental organizations. Second, education and training programs must be developed and implemented to raise the skill level of volunteer work. Finally, coordination and cooperation between central and local governments are necessary for adequate institutional support and legal preparation.

We have also developed several tactics for making these principles a reality. First, establish local and national organizations that activate, support, and control volunteer activities i.e., a Volunteer Services Foundation, Voluntary Funds. Second, develop and implement volunteer enrichment programs, educational programs for volunteers, in communities. Third, the government and private section must provide funding and other incentives, such as grants from central and local governments, tax rewards, and volunteer insurance.

V. FAMILY WELFARE RESEARCH

Status of the Elderly in Korea and Policy Implications

by Ka-oak Rhee, Mee-kyung Suh,
Kyoung-hwan Koh, Jong-don Park

Purpose

This report highlights results of "A Survey on the Living Status of the Korean Elderly" KIHASA conducted in 1994, with the approval of the National Statistical Office of Korea. Almost 2,500 (2,417) persons aged sixty and older were selected for a national sample through cluster sampling. From the sample, 2,058 were interviewed. Our findings make up one of the most useful data sets available for studying the status of senior citizens.

Major Findings

1. Living Arrangements: More than forty percent (41.0%) of the survey respondents reported that they do not live with their children, as compared with 27.4% of respondents in a similar survey taken in 1988. Of those who reported that they do not live with their children, 29.1% live with only a spouse and 11.9% live alone. This apparent trend of the elderly not living with their children is more prominent in rural areas than in urban areas.
2. Frequency of Contact with Children: Almost forty percent (39.5%) of respondents who do not live with their children reported that they see their children every month to three months. Of those who see their children once a week, a higher proportion live in urban areas rather than in rural areas, are married rather than unmarried, and are financially well-off rather than working-class.
3. Desired Living Arrangements: In 1985, 83.3% of respondents to a similar survey taken in 1985 wanted to live with their children.

That percentage decreased to 68.2% of respondents in a 1988 survey. In this survey, only 47.2% desired cohabitation.

4. Income and Employment: Our findings indicate an increase in the number of elderly working and a decrease in those receiving financial assistance from their children. Respondents receiving financial support from their children totalled 44.3%, while 36.7% earned income from employment. In the 1988 survey, 63.7% of the respondents reported receiving financial support from their children and 26.3% reported earning income from employment. A larger number of elderly in urban areas reported receiving financial support from their children, and a larger number of elderly in rural areas reported receiving income from employment. Elderly in rural areas also cited "need of money" as their main reason for employment in greater number than those in urban areas. Of working elderly, 72.2% claimed employment to be a financial necessity. The reported average monthly income per person was 100,000 won, approximately $125.
5. Health: More than 85% of respondents reported that they suffer from chronic diseases lasting at least three months. Arthralgia or arthritis·rheumatism was reported by 56.6% of the respondents. Back pain was reported by 31.2%, digestive diseases by 19.8%, hypertension by 19.3%, and respiratory diseases by 10.9%. Chronic diseases were reported by more women than men and by more of those living in rural areas than those living in urban areas.
6. Support needed: Almost a quarter (22.6%) of respondents reported difficulty with daily living activities, and only 53.3% of those who reported they need help receive physical support. Elderly in rural areas reported difficulty with daily living activities in larger numbers than those of urban areas. A greater number of women than men also reported difficulty. More persons aged 60-69 than those over 70 received physical support. Those aged 60-69 also received more emotional support from their families as well as those who are men and urban residents. More than three-fourths of those surveyed reported that they receive emotional support. Of the total respondents, more than half said they receive financial support. The

proportion of the elderly who receive financial support is higher among females than males and those who reside in urban areas than those in rural areas.

7. Family contributions: The elderly do not only receive support from their families, they make contributions as well. Almost three-quarters do housework, 59.9 provide emotional support, 17.7% contribute to family income, and 7.4% provide health services.
8. Perception of aging: Almost 60% of respondents agree that they enter elderlyhood "after they lose their mental and physical strength". The average age for entering elderlyhood and average age of retirement among respondents was 64, four years higher than the legal age of retirement in Korea.

Policy Recommendations

1. As the aging of the Korean population continues to accelerate into the 2000s, the needs of elderly will become more diverse. Welfare policy must consider those diverse needs and be flexible.
2. Poor and poor-in-health elderly need subsistence-level income assistance from the government. The Old Age Allowance and other public assistance programs can provide this financial support. Eventually, the qualifying age for the Old Age Allowance should be lowered. Resources permitting, benefits should be increased in accordance with standards of living.
3. The need for health care among the elderly is urgent. Most have chronic diseases, and need home care and home medical assistance as well as day care, short-term, and long-term care centers. The program should be developed with community input. However, for the demented and paralytic elderly, intensive nursing homes must be built. Professional clinics catering to the elderly and hospice services should also be made available.
4. Active social participation should be encouraged among the healthy elderly.
   1) Policies for the healthy elderly should emphasize their potential

contribution to the labor force by providing appropriate employment opportunities. Compulsory regulations to hire the elderly can be enacted, and retirement-preparation programs and on-the-job training for people reaching retirement should be considered.

2) A variety of leisure activities should be coordinated and made easily accessible. Participation of the elderly in volunteer activities should be encouraged.

5. The modern silver industry must be developed to assist government in fulfilling the needs of the elderly by expanding its resources.
6. Reconstruction of existing facilities, such as school kitchens and public baths, is recommended to provide services to the elderly.

Quality of Life in the Family and Policy Measures

by Hyun-seob Chang, Hyun-oak Kim, Hwa-ok Bae

Introduction

Traditional theories about family tell us social deviants are born of families that are noticeably dysfunctional in one way or another--the parents are divorced, children have died, etc. However, recent empirical research shows socially deviant behavior increasingly exhibited even in those that come from apparently "normal" families, meaning families in which both parents remain in the home and relationships among family members appear to be strong. We believe this problem stems from the breakdown in communication between family members and between the family and community. The consequences affect not only individual families, but weaken our national solidarity.

Thus, this study analyzes quality of life in families and make recommendations for its improvement. "Quality of life" refers to an individual's satisfaction with his relationship with his parents, his spouse, his workplace, and his community. Trained interviewers surveyed subjects with questionnaires designed to identify their general characteristics and ascertain their quality of life. We particularly examined the closeness and soundness of the relationship between parents and adult children and husband and wife, the two core dyads that form a family. However, our scope includes not only individual families, but individual persons, the workplace, communities, and the nation.

Methods

Thirty household heads or spouses of household heads from each of 99 enumeration districts (EDs) were selected for our sample population.

The EDs were the same used in the 1990 census. Of a total of 2,970 people, 2,666 persons (89.8%) were interviewed. Survey results were weighted in the statistical process.

This study differs from others in that its sample consists of men and women from all over the nation, but analyzes results in terms of regions, in other words, it considers regional characteristics. One limitation of this study is that its sample includes only heads of households and spouses of head of households, thereby underrepresenting the proportion of unmarried persons in the populace.

Results

1. Satisfaction with Marriage and Life

More married men than married men are satisfied with their lives. While 51.3% of married males answered that they would have been less satisfied with their lives if they had not been married, only 28.5% of married females answered the same way. On the contrary, 25.9% of married females said they would have been more satisfied if they had not married. The unmarried looked on marriage optimistically. More than 81% of unmarried men and 68.8% of unmarried women answered that they would be more satisfied with their lives if they were married.

Results also show that in general, the importance of family is a declining value, especially among married women. With other factors being the same, this decline can be attributed to emotional conflict between husband and wife.

2. Intergenerational Relationships

Of couples in which the husband's parents are still alive, 23.5% live with the parents. Almost one-third of couples in which the husband is a first-born son live with the husband's parents. Only 14.2% of couples in which husbands are not first-born sons lives with the husband's parents. Of couples in which the wife's parents are still alive, only 4.3% live together with the parents.

More families that live with the husband's parents provide economic assistance to the parents than those who receive economic assistance from the parents. Approximately five per cent each of men and women in such families answered that they receive monthly economic assistance from the parents, while 26.6% of men and 33.2% of women answered that they give economic assistance to the parents.

Housework in families that live with the husband's parents appears to be managed by the second generation, with assistance being both given to and received from the first generation (the husband's parents). Almost 65% of those surveyed responded that they provide assistance with housework, while 42.5% answered that they receive assistance with housework.

Of subjects with families who do not reside with the husband's parents, 20.5% of men and 16.4% of women answered that they meet the husband's parents more than once a week, and 45.8% of men and 38.6% of women communicate with them by telephone or letter. Also, 12.3% of men and 13.8% of women assist them economically. Of subject with families that do not reside with the wife's parents, only 3% of men and 5.5% of women said they assist them economically.

The findings show the prevalence of the principle that the oldest son is the nucleus of a family in Korean society. But other intergenerational relationships between parents and their married children are not so strong. While there is some contact, it does not seem enough to maintain solidarity among family members when they live separately.

3. Spousal Relationships

Eighty-one per cent of married men and 71.7% of married women agreed with the traditional notion that the appropriate role for men is to earn money and that for women is to care for the home. More than 57% of husbands are satisfied with the amount of housework being done by their wives, while 8.3% are not. Only 29.7% of wives are satisfied with the amount of housework being done by their husbands and 26.6% of wives are not so. On average, married men interviewed spent 4

hours and 58 minutes per week for sports and leisure, while married women spent 4 hours and 3 minutes. Only 8% of couples enjoyed sports and leisure together.

A quarter of the married women interviewed and 22.5% of the married men reported they do not communicate with their spouses except for important matters. More than 51% of married men and 29.6% of married women interviewed believed husbands should make the final decisions on important family matters. Almost a quarter of married men and 47.3% of married women did not agree.

These findings show that in many families, labor is divided between husbands and wives according to traditional gender roles. But it also seems that the content of the labor has changed and the amount of housework wives do has increased. The division of labor is an important social issue for three reasons. First, labor physically separates couples, limiting their contact with each other. Second, many wives are overloaded increasing household responsibilities and, in traditional nuclear families, usually receive no help. Third, our society increasingly values work that results in the accumulation of capital, leaving housewives feeling unworthy. This, in turn, may be one factor why so many wives in this study did not consider family life important.

4. Families and Work

While married men interviewed spent 9 hours and 40 minutes in the office each day on average, they spent 12 hours and 42 minutes outside the home to maintain their salaried positions. These men have little time to interact with spouses and children. Working parents that return home tired also prevent quality interaction between family members. More than 55% of working husbands and 72.1% of working wives said they come home physically tired. They also reported being mentally tired at similar rates. More than 45% of working husbands and 23.7% of working wives reported they could devote their energies fully to work because another family member handles the housework. However, 33.5% of working husbands and 62.1% could not devote all their energy to work. To lessen this discrepancy, work standards could

be lowered.

5. Families and Communities

Thirty per cent of married men said they attend monthly community meetings (*Bansanghoe*), while 68.1% said they do not or that there are no meetings in their communities. Married women answered the same question at similar rates. It appears that no substantial interaction occurs between families and their communities unless families make an effort to get involved. In its current state, a community cannot function to enforce guidelines for socially acceptable behavior.

6. Summary

Work and household responsibilities leave husbands and wives little time to interact with each other, their children, their parents, and their communities. Decreasing contact among nuclear family members and between the generations lowers not only the quality of life in each family, but threatens to weaken community and national solidarity.

Policy Measures

We recommend the following measures to fortify the family relationships:

1. Develop and make available a comprehensive family counseling program for both crisis and prevention.
2. Participation in civic activities should be encouraged to strengthen communities, and thereby strengthen national solidarity. Economic incentives may be needed to recruit volunteers. The public and private sectors must work cooperatively to this end. Government should establish some system for managing this effort.
3. Women feeling unworthy because of a shift to capitalistic values should be encouraged to participate in matters outside her own family. This does not necessarily mean that all women should get paying jobs. Women can also participate in various social activities for community development.

4. Employees should work under conditions that allow them to maintain a health relationship to their family. While such a modification may reduce productivity in the short term, the stability of employees' home lives will ensure productivity in the long term. Employers should also contribute to community development by providing welfare services. This will enhance employees' quality of life even further, especially with respect to their communities.

A Study of the Welfare Needs of Broken Families

by Sae-kwon Kong and Ae-jeo Cho

Objectives

The ideology of family, its function and structure, has been changing in current society. Recent increases in industrial and traffic accident fatalities and divorce have resulted in family separation, single-parent households, elderly persons living alone, and teenage heads of households. Korea must consider these developments if it is to modify its welfare policy to address social changes. This study uses survey data to identify the causes of broken families, discover their needs, and seek effective methods of government support for them.

Methodology

To attain these objectives, we have conducted surveys on the living status of families to 20,000 selected households from 167 enumeration districts (EDs). The 167 ED sample was previously chosen in the "1991 National Fertility and Family Health Survey". Our survey questionnaire was divided into four sections: socio-demographic background of household members, general information on living and economic activities, relationships among family members, and causes of broken families. Intact families answered 28 questions in the first two sections; broken families answered all 102 items.

Results

Of the 17,275 households surveyed, broken families comprise 1,449 of them (8.4%). Only 890 persons from broken families responded. Data analysis focused on the structure and function of the broken families.

Based on marital status, family structure was categorized as well-structured(a sustained marriage) or mal-structured (marriage dissolution). Economic independence determined categorization in the function variable. Economically independent households are considered well-functioning, while families that receive aid from government, kin and others are mal-functioning.

Survey results show that well-structured, well-functioning families comprise of 81.3% of households interviewed, and the remainder of families were mal-structured, mal-functioning, or both. Family members in half of the households were well-structured, but mal-functioning, while family members in a third of the households were mal-structured, but well-functioning. Family members in 2.4% of the households were both mal-structured and mal-functioning.

Self-reported economic status and degree of life satisfaction were lower in broken families than in intact families. In terms of net worth, 65.1% of well-structured and well-functioning households reported to have a saving deposits while 30.0% reported to be debts. Only 47.3% of mal-structured, well-functioning families were surveyed to have saving accounts, while 22.1% of well-structured, mal-functioning families reported savings. Of mal-structured, mal-functioning families, 19.0% reported a positive savings and 35.1% reported debts.

Seventy-three percent of mal-structured, mal-functioning families reported feeling poor, while 44.6% of mal-structured, well-functioning families and 42.4% of well-structured, mal-functioning households reported feeling poor. Cumulatively, 61.7% of broken families reported feeling poor. Intact families reported feeling poor at the rate of 22.2%. Yet, 12.0% of mal-structured, mal-functioning families reported feeling satisfied. Financial conditions and childcare were the most cited family difficulties with daily living. In broken families, 43.0% claimed financing to be the biggest problem and 28.7% said childcare to be.

Eight hundred ninety mal-structured families, or 21.0% of the households surveyed were headed by single fathers, while 72.0% were headed by single mothers. Families headed by other relatives represented 7.0% of the households surveyed. The average number of persons in

mal-structured families was 3.1.

Single-mother families occupy the largest proportion of households with savings as well as those in debt. With 9.7% reporting a positive net worth, families headed by other relatives make up the smallest proportion of households reporting positive savings.

Families headed by other relatives reported feeling poor in greatest number, 80.6%. They also reported dissatisfaction with life in greatest number, 59.7%. Single-father households reported dissatisfaction with life at the rate of 41.9% and single-mother households at 38.6%. In general, satisfaction with life among broken families was low; only 14.8% reported satisfaction.

Finally, we examined household expenses. The broken families reported difficulty in child caring expenses (41.0%), food expenses (20.9%) and housing expenses (18.6%) in order. Government assistance with educational expenses in broken families helped the household economies of broken families, motivating such households to achieve economic self-reliance and prevent broader adolescent problems.

Government must also consider population structure and the need for emotional and role support systems in developing an effective welfare assistance program. Suffering from lack of care and education, children of broken families reported feeling isolation from other relatives and the community-at-large. Single parents also reported feelings of loneliness and needed for emotional support and childcare assistance as well as economic security.

Recommendations

Two factors have contributed to the increase in broken families. First, some households have not been able to adapt to our rapidly changing society. Second, the structure of broken families directly corresponds to households' mal-functioning. Government has yet to respond to the increase in mal-structured, mal-functioning households and has limited resources in which to do so. Programs, such as workshops on adapting to industrialization and its consequent societal

changes, marriage, finance, and childcare counselling, must be established. Work and educational rehabilitation opportunities should also be created for members of broken families.

In order to effectively implement these programs, government must coordinate the execution of these tasks among its divisions. Moreover, because government resources are limited, we advocate a welfare policy that prevents broken families.

A Study on Living Conditions and Support Programs for Teenage Heads of Household

by Eung-suk Kim and Sang-hun Lee

Introduction

The structure and functions of the traditional Korean family have dramatically changed over a short period due to rapid industrialization and urbanization. Family norms and values about marriage and children have changed. Relationships within family and with relatives have weakened. Disease, traffic accidents, and industrial injuries, all by-products of industrialization, have increased death and divorce rates.

Along with this trend, the number of broken families have increased. The number of teenage heads of household (THHs) enrolled in the government THH support program increased from 6,537 households in 1989 to 7,322 households in 1993. Teenage heads of household, most of them who are middle and high school students, are unable to support a family with income only from a part-time or temporary job. The government THH support program assists with living expenses and educational fees.

The purpose of this study is to examine the general characteristics, living conditions, and needs of THHs to develop appropriate welfare measures for them. This study analyzes their actual living state, government-sponsored and private support programs, and perceptions of and attitudes toward such programs. Of 7,322 THHs currently enrolled in the government THH support program, 931 recipients were interviewed.

Results

1. Almost 65% of those surveyed live with grandparents, uncles, or aunts, while 26.4% live with their brothers and sisters. Almost five per cent live with non-relatives.

2. Only 10.3% of THHs surveyed own houses. Some live at permanent rental apartments provided by national or provincial governments. The remainder live with relatives or a neighbor.
3. More than 38% of THHs are high school students; 31.1% are middle school students. More than 17% do not attend any school. The mean age of THHs is 15.7.
4. Almost 52% of THHs report that they can support themselves while 33.8% report that their relatives assist them. More than half do housework. More than 35% make major domestic decisions. Almost 17% make decisions with the help of a relative. Approximately 90% are on good terms with relatives.
5. Teenagers become forced to lead their households when their parents die, divorce, remarry, or leave the home. Cancer, traffic accidents, and industrial injuries are the main causes of death. Severe destitution and family conflict are the most cited reasons for divorce, remarriage or leaving the home.
6. THHs currently receive financial assistance from the government, social institutions, welfare foundations, religious organizations, and relatives or neighbors. Among these entities, government and private welfare foundations provide the most financial support, while relatives provide the most emotional support. Almost 60% receive financial assistance from several organizations, while 13.1% receive financial assistance from only one organization. Most do not receive cash directly, but through on-line banking services. More financial assistance is given to THHs in urban areas than to those in rural areas.
7. More than 90% of respondents refused to enter youth care institutions because they do not want to be separated from family members or relatives.
8. Almost 94% of those surveyed believe a high school graduation certificate is critical in getting a regular job to manage their living expenses. Thirty-six percent believe they must graduate from college to live successfully.

9. More than 42% of THHs report that they have sponsors who help them financially and emotionally, while 57.8% do not. Among the THHs with sponsors, 46.3% report relatives as their main sponsors. Other sponsors are volunteers and religious leaders. More than 46% are in need of sponsors or other voluntary workers who can provide advice for daily living and with housework.

Recommendations

1. A home-based care system should be developed to enable THHs to remain with or near their family members and relatives. The government should work to find sponsors for those without relatives.
2. Direct financial assistance from the government should be given to relatives, as most teenagers lack the experience to manage a budget. Government should provide benefits--priorities in housing allocation, child care allowances, purchase loans for a house--to sponsors who care for THHs.
3. Government should expand educational assistance to THHs attending general high schools and universities. Currently, only middle and technical high school students receive assistance.
4. Government should create job opportunities for single-parent families to prevent broken families.

Legal, Institutional, and Administrative Measures for Improving Children's Rights

by Key-won Cheong and Mi-young Oh

Background

The Republic of Korea has signed an act ratifying the Convention on the Rights of the Child. According to Article 44, participating states must submit to the Committee, within two years of entry into force of the Convention, an initial report on legal, administrative, and institutional measures to realize children's rights as recognized in the Convention. The Ministry of Health and Social Affairs has requested that KIHASA make the report.

The Legal, Institutional, and Administrative Measures for improving Children's Rights

1. General Measures to Implement
   1) Harmonize the spirit of national law and policy with the provisions of the Convention.
   2) Coordinate and monitor implementation of Convention-approved actions.

2. Definition of Children

3. General Principles
   1) Non-discrimination (art. 2).
   2) Best interest of the child (art. 3).
   3) The right of life, survival, and development (art. 6).
   4) Respect for the views of the child (art. 12).

4. Civil Rights and Freedom

   1) Name and nationality (art. 7).
   2) Preservation of identity (art. 8).
   3) Freedom of expression (art. 13).
   4) Freedom of thought, conscience, and religion (art. 14).
   5) Freedom of association and peaceful assembly (art. 15).
   6) Protection of privacy (art. 16).
   7) Access to appropriate information (art. 17).
   8) The right not to be subjected to torture or other cruel, inhuman or degrading treatment or punishment (art. 37 a).

5. Family Environment and Alternative Care

   1) Parental guidance and responsibilities (arts. 5 & 18, paras. 1∼2).
   2) Separation from parents (art. 9).
   3) Family reunification (art. 10).
   4) Recovery of maintenance for the child (art. 27, para. 4).
   5) Children deprived of a family environment (art. 20).
   6) Adoption (art. 21).
   7) Illicit transfer and non-return (art. 11).
   8) Abuse and neglect (art. 19), including physical and psychological recovery and social reintegration (art. 39).
   9) Periodic review of placement (art. 25).

6. Basic Health and Welfare

   1) Survival and development (art. 6, para. 2).
   2) Disabled children (art. 23).
   3) Health and health services (art. 24).
   4) Social security, child-care services, and facilities (arts. 26 and 18, para. 3).
   5) Standard of living (art. 27, paras. 1∼3).

7. Education, Leisure, and Cultural Activities

   1) Education, including vocational training and guidance (art. 28).

2) Aims of education (art. 29).
3) Leisure, recreation, and cultural activities (art. 31).

8. Special Protection Measures

1) Children in conflict with the law (art. 40).
2) Children in situations of exploitation, including physical and psychological recovery and social reintegration (art. 39).

Ⅵ. POPULATION POLICY RESEARCH

1994 National Fertility and Family Health Survey

by Moon-sik Hong, Sang-young Lee,
Young-sik Chang, Young-hie Oh

A nationwide fertility and family health survey is conducted every three years in Korea. KIHASA conducted the most recent survey in 1994. Surveyors visited approximately 11,000 households and interviewed 6,060 married women. Here are the major findings:

Major Findings

1. Fertility

The total fertility rate in Korea has been maintained at 1.6 since 1988, but increased to 1.75 in 1994. This is still low under the replacement level. The fertility level in urban areas was previously lower than that in rural areas, but there was no difference in 1994.

2. Gender Preference

The ideal number of children women think remains around the level of 1991. The preference for male children is also constant among women. Approximately 61% of them expressed the necessity of having a boy. Almost 15% of married women had ever been informed of the gender of their fetuses, whether by chance or deliberately. More than 17% of female fetuses were aborted, while only 3.2% of male fetuses were aborted.

3. Induced Abortion

Approximately 61% of pregnancies were terminated by live births, 28.3% by induced abortion, 8.2% by spontaneous abortion, and 0.4% by stillbirth. The highest rate of induced abortion occurred in the late 1970s and has decreased gradually since. The proportion of those with

induced abortion experience was 54% in 1991 and 49% in 1994. Birth control was cited as the main reason for having an induced abortion by 69.5% of the women who had them. Approximately 17% of those who had induced abortions experienced side effects.

4. Maternal and Child Health

Almost all women, 99.2%, received prenatal care during their last pregnancy. Almost all babies, 98.8%, were delivered in institutions, a dramatic improvement from 87.8% in 1988. Approximately 32% were delivered through Caesarean section operations. Breast feeding during the first six months after birth occurred at the low rate of 22.4%, while 8.5% of mothers administered a combination of breast and artificial feedings.

5. Contraceptive Practices

In 1991, 79.1% of married women practiced contraception. This rate has declined to 77.4% in 1994, however, it remains a high level near the saturation level. The use of single-application contraceptives increased due to the reduction of government-supplied contraception, like sterilization. The rate of sterilization decreased significantly. Preference for contraceptive methods differed according to women's region and educational level. Sterilization was chosen by 37.1% of women in rural areas. Urban dwellers used condoms at a rate of 15.8%, while only 7.4% of rural residents used condoms.

Status and Policy Issues of the Family Health Program

by Hyun-sang Moon, Young-sik Chang,
Yu-kyung Kim, Hak-shuk Chun

Purpose

During last thirty years, the Korean government has implemented a strong population control policy. As a result, the total fertility rate declined from 6.0 in 1960 to 1.75 in 1994. After initiation of a family planning program, the population growth rate decreased from 3% in 1960 to 0.96% in 1992. As the current fertility rate is below the replacement level, future population growth is anticipated to be at the zero growth level around 2020. These changing demographics require us to once again evaluate our population control policy and family planning program.

Population Prospects and Policy Issues

1. Population growth and structure

Rapid demographic transition has also led to rapid changes in population growth and structure during last thirty years in Korea. In 1991, a population projection assuming that total fertility rate would be maintained at 1.6 estimated the total population will be 46.8 million by 2,000 and will stabilize at around 50.6 million by the year 2021. A continuous low fertility rate will also yield a population in 2021 where 15.8% are younger than 15, and 13.1% are older than 64, compared to 25.8%, and 5% respectively in 1990.

2. Policy issues

Emerging population issues are stabilization of population growth, empowerment of women, an aging population, and the balanced

distribution of the population. Government should review their development strategies, integrating population and environment programs to sustain development and improve the quality of life. The empowerment of women and improvement of their social and economic status of crucial importance. Every effort should be made to dispel all practices that discriminate against women and appropriate measures must be adopted to give women equal access to the labor market.

Low fertility and mortality rates produce fundamental changes in the age structure of a population. It is estimated that in 2020, approximately every one in eight persons will be at least 65 years of age. Government should give high priority and attention to the welfare of elderly people. To promote quality of life, the ability of families to take care of their elderly should be enhanced as well as the self-reliance of elderly people, so they may continue to participate in society

To create a more balanced distribution of the population, government should assess how consequences of economic and environmental policies, sectoral priorities, and infrastructure investment influence population distribution. To achieve balance in distribution of production, employment, and population, government should adopt sustainable regional development strategies to create local development.

Improvement of the Family Health Program

Special attention should be given to the imbalanced sex ratio at birth, and to the prevention of induced abortion. The social support policy for population control should also be reconsidered.

1. Government should take appropriate steps to help women avoid induced abortion, which in no case should be promoted as a method of family planning.
2. The family health program should expand and upgrade its formal training in sexual and reproductive health so adolescents are informed, educated, and counselled before they begin sexual activity.
3. A program for reducing maternal morbidity and mortality should include information on reproductive health and family planning

services.

4. Family planning health workers must be utilized for various functions to meet the increased needs for health and welfare services of local governments.
5. We recommend abolishment of the following measures that were adopted for population control:
   - Medical insurance coverage for delivery of up to two children.
   - Education allowances given to government employees for up to two children.
   - Medical services and housing loans given to sterilized adults with less than three children.
6. Social support policies for low-income earners should be strengthened.
7. Abortions of female fetuses because of a preference for sons should be prohibited.

Imbalance of Sex Ratio at Birth and Policy Implications

by Nam-hoon Cho and Moon-hee Suh

Introduction

Due to socio-economic development and the strong population control programs of the government during the last three decades, the fertility rate has precipitously declined to below the replacement level. However, parents' preference for sons remains, resulting in an imbalance of sex ratio at birth since 1985. This paper aims to present empirical evidence of these changes in the sex ratio at birth in Korea, and to discuss possible demographic, social, and health implications of the changes. The sex ratio is expressed in terms of number of male births per 100 female births.

Selective induced abortions of female fetuses appeared to be the largest contributing factor to the rising imbalance of the sex ratio at birth. With a small family norm and a low fertility level, this preference for sons has had profound effects on reproductive behavior in Korea. Tests for sex identification of fetuses became widely available in the mid-1980s, when medical technology for sex-choice began to be introduced in Korea. Since then, parents, under societal pressure to limit the size of their families and still produce sons, have been able to decide not only the sex of their children, but their birth order, i.e. a son first, a daughter second.

Recent Changes in Sex Ratio at Birth

A rising sex ratio at birth has been recorded since 1981. In 1981, the sex ratio at birth was 107. It increased to 110 in 1985, and to 114 in 1992.

In recent years, the sex ratio at birth has drastically increased when couples have their third and fourth children. The ratio was recorded at 195.6 for the third child and 229.0 for the fourth child in 1992. Considering, however, that the total fertility rate was approximately 1.6 in 1991, it appears having three or four children per family is not common. In fact, empirical evidence shows only 8% of families having more than two children. More frightening is the prospect that the sex ratio of first- and second-born children will increase. Our research shows that families with two or more children are more likely to have an even sex ratio among their children than smaller families. Higher sex ratios at birth among third- and fourth-born children result from the prevailing preference for sons in Korean society. During the mid-1980s, this preference for sons decreased, with only 29.8% of women responding that a son was necessary and 49.4% responding that having a son does not matter in 1988. The preference for sons became stronger again in 1991. That year, 40.5% of women said having a son was necessary and 30.7% said having a son was better than not. Only 28% responded that having a son did not matter.

Implications of the Sex Preference for Sons

The sex-selective induced abortions after sex identification tests have demographic, social, health, ethical, and economic implications.

In terms of demographics, sex-selective births affect total fertility rate and the number of female fetuses aborted. In the years 1990 to 1992, the annual number of these sex-selective induced abortions estimated about 25,000, comprising approximately 5% of females born that year. Induced abortions of female fetuses did not greatly affect the total fertility rate, but a preference for sons increased the rate by 10%.

The most significant social implication of the rising imbalance of sex ratio at birth is the inevitable lack of marriageable women. Research has shown that men marry women approximately four years their junior. Assuming that men aged 25～29 marry women aged 20～

24, we can project the approximate percentage of men who will not have brides given statistics of sex ratios at birth since the 1970s. We estimate that in 2000, marriageable men will outnumber marriageable women by 19.1%. In 2010, the situation worsens, with marriageable men outnumbering marriageable women by 28.6%. Such a state could lead to a rise in sex-related crimes and diseases.

Only negative side effects, if any at all, can result for women having induced abortions. Infants born from women who have previously had abortions may also experience negative side effects. We consider the cost of performing selective induced abortions and sex identification tests on fetuses in addition to their possible negative side effects maternal and infant health. Performing such illegal services also raises ethical questions for medical personnel.

Policy Recommendations

A prevailing preference for sons in Korea has significant social consequences, most alarmingly, the impending unavailability of marriageable females. To combat this trend, the government forbade performance of sex identification tests on fetuses and enacted harsher disciplinary measures under Medical Law in 1994. These recent amendments punish physicians performing these tests with up to one year of imprisonment, a fine of 10 million won which is equivalent to U.S.$12,500, or revocation of their licenses. Thus far, these legislative measures have not been effective in detering sex identification of fetuses and sex-selective induced abortions. Rather than discouraging physicians from performing these services, government must discourage parents from asking for them.

This study recommends the following policy measures:

1. A mass media campaign should be started to educate the public of the negative side effects to health and societal consequences of having sex-selected induced abortions. If possible, public service announcements should be aired on television.

2. To eradicate the prevailing preference for sons, the status of women must be improved. Family Law must be modified to codify equal status of the sexes. Employment opportunities for women must be increased and childcare made available to encourage the continued participation of women in the work force and in social and civil activities. Improvement of childcare services that will afford women more time outside the home is especially important as a low fertility rate is expected to continue, therefore meeting labor force needs.
3. Physicians must take individual responsibility not to provide illegal medical services. Government steps thus far in enacting harsher penalties for those caught have been ineffective. Change will only occur by the will of the medical community itself.
4. Curriculum on medical ethics must be expanded in colleges and job training courses. It must also be incorporated into the instruction of social and life sciences, employing real-life situations for discussion.
5. Penalties for physicians performing illegal medical services must be strictly enforced. More thorough methods of inspection must also be implemented. This study also advocates enactment of a penalty for receivers of illegal medical services.

A Study on Sexual Behavior of Young Korean Men

by Jong-kwon Lim, Hye-ryon Kim,
Dong-hyon Chang, et al.

Purpose

Adolescents these days are more sexually expressive than those a generation ago were. Yet, they are choosing to get married at a later age than their parents did. With industrialization, traditional values about the family have begun to erode among adolescents while a western-influenced media barrages them with images of sex and erotica. At the same time, an alarming increase in the births of illegitimate children, abortions by unwed mothers, and cases of sexually transmitted diseases, among other sex-related problems, has been reported. New policies must be developed and implemented before the situation worsens and the number of unwanted babies and AIDS cases continue to increase.

In Korea, several studies have been conducted on the sexual behavior of unmarried females, but the study of unmarried males has been neglected. Thus, we have chosen to study unmarried males between 15 and 34 years of age. Industrial workers, who generally have lower socio-economic status, less education, and wider accessibility to sexual services, comprised our primary study group. They are also at a greater risk for contracting STDs. For comparison, we also studied university students, who generally have higher socio-economic status. Between the two groups, we compared knowledge of and attitudes toward sex to determine if any relationship exists between such knowledge, attitudes, and consequent behavior and the general demographic, social, and psychological characteristics of each group. The major purpose of this study is to present basic data on which efficient and effective social policy that satisfies the needs of adolescents can be

devised and carried out.

Objectives

1. To secure reliable data on the sexual knowledge, attitudes, and practices of young male industrial workers and university students aged 15 to 34.
2. To make a cross-sectional comparison of the sexual knowledge, attitudes, and practices of these industrial workers and university students.
3. To collect baseline data for policymakers to use in implementing sex-related service program, such as sex and STD prevention education, and to make it possible to measure the impact of the program.

Methods

We selected industrial workers working in and around Seoul as one sample group and university students in Seoul as another because these two groups represent the lower and higher ends of Korean social strata respectively.

Industrial workers were selected from nine firms in the Kuro industrial complex in Seoul and two firms in Bucheon near Seoul. The completed questionnaires of 1,039 industrial workers from eleven firms were used in computer analysis. University students were selected from four universities using systematic sampling. From university students, 1,103 completed questionnaires were used.

Results

1. The majority of industrial workers and university students received sex education from schools, 60.2% and 66.8% respectively. Friends or co-workers were the second biggest source of sex education for the industrial workers and university students. Only 5.8% of the industrial workers and 5.2% of the university students received

personal counselling about sex. Almost a quarter of the industrial workers and 19.1% of the university students never received sex education. While schools appear to be the main source for sex education, our findings show sex education is more effective when taught at home or through personal counselling.

2. The majority of the industrial workers and university students wanted to know more about sex, 66.8% and 64.9% respectively. Also, 39.7% of the industrial workers and 33.8% of the university students wanted counselling about sex. Industrial workers were most interested in learning about STDs and AIDS (31.6%), followed by dating (24.7%), reproductive organs (21%), contraceptive methods (19.7%), and the sex drive (18.2%). University students wanted to learn most about dating (31.2%), followed by AIDS (25.2%), contraceptive methods (24.3%), and the sex drive (23.8%).
3. More than 78% of the industrial workers had had sexual intercourse, whereas only 36.3% of the university students did. However, sexual experiences rates increased with age in both groups. Other common traits of the sexually experienced were that they had completed their military service, they live in lodging houses without meal service, they smoke, and they drink in large quantities.
4. Of all respondents, 649 industrial workers (62.8%) and 291 university students (26.4%) had had sex with commercial sex workers. Among the sexually experienced, 80% of industrial workers and 72.8% of university students had had sex with commercial sex workers. More specifically, 39.9% of the industrial workers had had sex with prostitutes; 23.6% with barmaids; 20.1% girls in entertainment spots; and less than 20% with girls in massage parlors, coffee shops, or barber shops. Of the university students, prostitutes were the most common type of sexual partner.
5. Condom use during intercourse was low. In their first sexual encounters, only 15.1% of the industrial workers and 22.1% of the university students had used condoms. This rate increased to 23.% of industrial workers during their most recent sexual encounters. A comparable figure is not available for university students because

data for university students' most recent sexual encounters are broken down by types of sexual partners. However, in each type, condom usage rates had increased.

6. Of the industrial workers surveyed, 17.1% had been infected with STDs. Among the sexually experienced industrial workers, 21.9% had been infected. Only three per cent of the university students responded that they had been infected with STDs. Of the 400 sexually experienced university students, 8.3% had been infected with STDs.
7. Almost half of the industrial workers with STDs went to drug stores for initial treatment of their infections, while 41.6% of them went to hospitals or public health centers first. Of university students with STDs, 48.6% went to hospitals or public health centers for their initial treatment, while 33.3% went to drug stores first. Without proper treatment, especially antibiotics, the spread of STDs is difficult to prevent.
8. Of industrial workers with STDs, 46.1% said they were infected by prostitutes or call girls, 26.4% by barmaids or girls in coffee shops, and 10.7% by girlfriends. Of university students with STDs, 69.7% were infected by prostitutes or call girls, and three per cent said they were infected by girlfriends.
9. Of industrial workers with STDs, 84.8% responded that they did not use a condom at the time of infection; 87.9% university students with STDs also had not used a condom at that time. Such respondents said they were drunk at the time of infection, which contributed to their not using a condom.

Policy Recommendations

1. Revise the current liquor and cigarette licensing laws to curb drinking and smoking among youth,
2. Review mass media advertising of liquor and tobacco products and require such manufacturers to include notices of the harmfulness of their products in their packaging.
3. Conduct campaigns at schools, factories, sports centers, fast food places,

and other places youths frequent to discourage the use of alcohol and tobacco products.

4. Apply the infectious disease prevention law not only to prostitutes, but to barmaids, coffee shop or tea room service girls, and masseuses at barber shops to prevent the further spread of AIDS and other STDs.
5. Encourage men to marry at an earlier age, and after they are married, appeal to their sense of morality to discourage them from having extra-marital affairs. Currently, the average age at which men marry is 26.8.
6. Reduce the requirements by prostitution by encouraging men to marry at an earlier age through the institution of direct and indirect social support systems, such as housing priorities and improved vocational training.
7. The Ministry of Education must revise sex education curriculum and textbooks related to family life to teach sexual knowledge as well as establish healthy sexual values. We strongly suggest that school nurses, who are responsible for students' health, also be responsible for teaching family life education.
8. The Ministry of Labor should modify industrial companies' in-service training programs so education of sex and family life is the highest priority.
9. The Ministry of Defense should conduct AIDS and other STD prevention programs for its soldiers in training. Army medical officers need to be trained as sex educators, and the appropriate training, teaching, and audio-visual materials must be developed. As soldiers are a captive audience, the Army can easily conduct compulsory programs, so provisions for sex education for should receive the highest priority.
10. As the government's effectiveness in implementing sex education is limited, social agencies, such as Planned Parenthood of Korea, the Young Men's Christian Association, and the Young Women Christian Association, should be encouraged to join the effort in teaching overall reproductive health as well as specific contraceptive methods and prevention of AIDS and infection from other STDs.

11. Develop innovative approaches for encouraging young men to regularly have STD detection test. One suggestion is to open an easily accessible youth health clinic where patients are treated non-judgemental.
12. Improve STD and AIDS services at health centers and STD treatment centers by broadening the range of sexual issues taught in reproductive health promotion programs. Such sexual issues include sexuality, pregnancy, abortion, and contraception.