

Cancer in Korea: Present Features

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한국인의 암 질환 현황

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As of 1995 in Korea, more than 50,000 persons died due to cancers a year. And around 230,000 cancer patients were under medical treatment. The total amount for medical care expenditure for cancer inpatient was estimated as 400 billion Korean Won (about US\$ 460 million), which accounts for 15-18% of all expenditure for inpatients.

The age standardized annual incidence rate (ASR) of all cancers in the years of 1992-1995 was 290.8 /100,000 in males and 173.4 in females. The cumulative rates for the age span 0-74 were 35.8% in males and 20% in females. Four cancer sites, stomach, liver, lung and colo-rectum, comprise two-third of all new cancers in males. For females, the major sites include uterine cervix and breast as well as the former 4 sites.

Cancer is the first leading cause of death for Koreans. In 1995, the ASR was 179.0 in males and 73.5 in females, which accounted for 24.1% and 17.7% of all deaths in males and females, respectively. Recently some changing patterns of major cancers were observed especially in older age group. Cancer patients account for 8.3% of all inpatients in 1995, but medical expenditure for them accounts for 18% of all expenditure for inpatients. Early detection programs for specific cancer sites such as stomach, liver, colorectum, breast, and uterine cervix have been adopted and conducted since 1992 by several medical insurance companies. However, less than 10% of target population on the whole participate in the program. It was not until 1995 that the Korean government paid attention to national cancer control program. In 1995, the "Ten Year Plan for Cancer Control, Korea" was formulated by a task force, which was initiated by government. The Government adopted the plan as a national policy in 1996. The economic crisis of Korea in 1997, however, hindered the plan in carrying out.

INTRODUCTION

The total area of Korea (South) is about 99,394 Km², with seven metropolitan cities and nine pro-

vinces as administrative unit. In 1995, the total population was 44,551,183 (22,365,520 males and 22,185,663 females). Seoul is the capital city of Korea with the population of about 11 million, one

quarter of total population.

Cancer is one of the most common diseases for Koreans. Cancer annually affects nearly 80,000 people and causes 50,000 deaths. And it is estimated that about 230,000 people are suffering from cancerous diseases.

This is a brief presentation of present features of cancerous diseases in Korea, in terms of incidence and mortality, burden of cancer patient care, and Government efforts to cancer control.

BURDEN OF CANCER PATIENT CARE IN KOREA

Of all inpatients for medical care in Korea, cancer patients account for 8.3% for males and 7.9% for females in 1995. However, medical care

expenditure for cancer inpatient accounts for 15~18% of all expenditure for inpatients. The total amount for medical care expenditure for cancer inpatient was estimated as 400 billion Korean Won (about US\$ 460 million) as of 1995.

INCIDENCE PATTERNS

With reference to the Seoul cancer registry data, 1992-1995, the crude annual incidence rate of cancer for males was 184.4 per 100,000, and 158.4 for females. The age standardized rate (ASR) for world population were 290.8 in males and 173.4 in females. The cumulative rates for the age span 0-74 were 35.8% in males and 20% in females.

Of all the new cancers, the five leading sites of



Fig. 1. Five leading cancers among Koreans, Males.

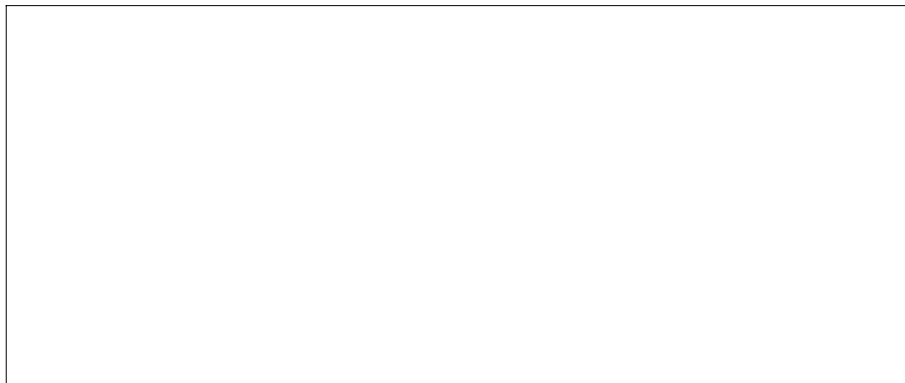


Fig. 2. Five leading cancers among Koreans, Females.

cancer in males were stomach (24.7%), liver (18.5%), lung (15.3%), colo-rectum (8.5%), and urinary bladder (3.2%). The first four cancer sites, stomach, liver, lung and colo-rectum, accounted for two-third of all new cancers in males. For Korean women, the five leading cancer sites in all age groups were stomach (17.3%), uterine cervix (13.5%), breast (12.3%), colo-rectum (9%), and liver (7.2%). They accounted for 59.3% of all new cancers. In older age group, over 65 years, they were stomach (22%), lung (12.3%), colo-rectum (11.7%), liver (9%), and uterine cervix (7.2%), however. In the age group of 35~64 years, they were uterine cervix (17.5%), breast (17%), stomach

(15.5%), colo-rectum (8.6%), and liver (7.4%). They accounted for 66% (Fig. 1, 2).

Japan and some part of eastern Asia including Korea is the highest incidence area of gastric cancer in the world. A comparison of the age incidence curves in males in Seoul, Osaka in Japan, and Los Angeles in USA was shown in Fig. 3. The ASR of gastric cancer was 71.1 (per 100,000) in Seoul, 65.0 in Osaka, and 7.6 for white males in Los Angeles. The curve of Seoul parallels that of Los Angeles, in other words, it has same difference ratios, about 9.3-9.4, across the age. This parallel suggests that additional or particular factors, which are common across the age, are

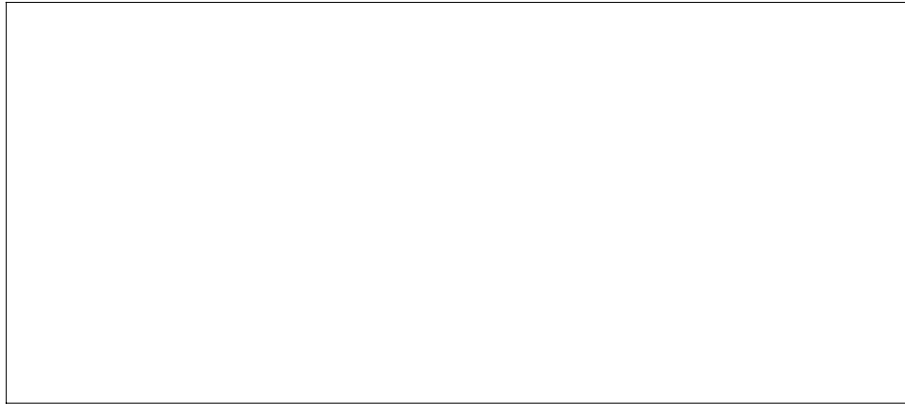


Fig. 3. Incidence curve of stomach cancer by age among males in Seoul (1992-1995), Osaka (1988-1992), and Los Angeles, White (1988-1992).

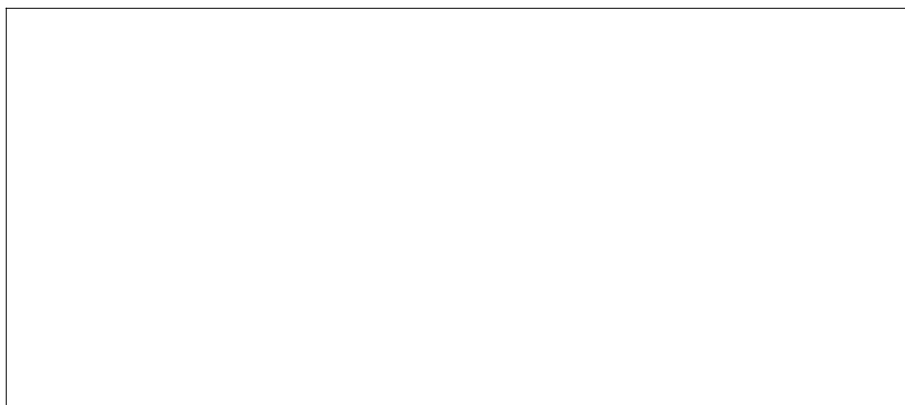


Fig. 4. Incidence curve of liver cancer by age among males in Seoul (1992-1995), Osaka (1988-1992), and Los Angeles, White (1988-1992).

engaging in the risk of gastric cancer in Korea. While, the curve of Osaka is not parallel to that of Seoul along with all the age group. Under the age of 40 years, the incidence in Osaka was relatively reduced. It suggests that the risk for gastric cancer is changing in Japan, especially in younger populations.

The age incidence curves of liver cancer for males in three populations, Korean, Japanese, and US whites were shown in Fig. 4. Like as seen in Fig. 3, the curve of Seoul parallels on the whole that of Los Angeles. It has the nearly same difference ratios along with all the age group. While, to compare the curves between Seoul and Osaka, incidence pattern according to age is quite different

each other, although the ASR in two areas were nearly same, around 47. Under the age of 60, the incidence was higher in Seoul, but contrarily in older age group, higher in Osaka. It suggests that major risk factors for liver cancer in those areas are not same.

In case of colo-rectal cancer, the age incidence curves in three populations show a peculiar pattern, as seen in Fig. 5. The ASR of colorectal cancer among males was 24.9 in Seoul, 34.2 in Osaka, and 42.5 in Los Angeles (whites). However, the differences in incidence between 3 populations were observed only in older age group, over 50 years of age. It might simply reflect the risk accumulated since earlier life. Otherwise, certain

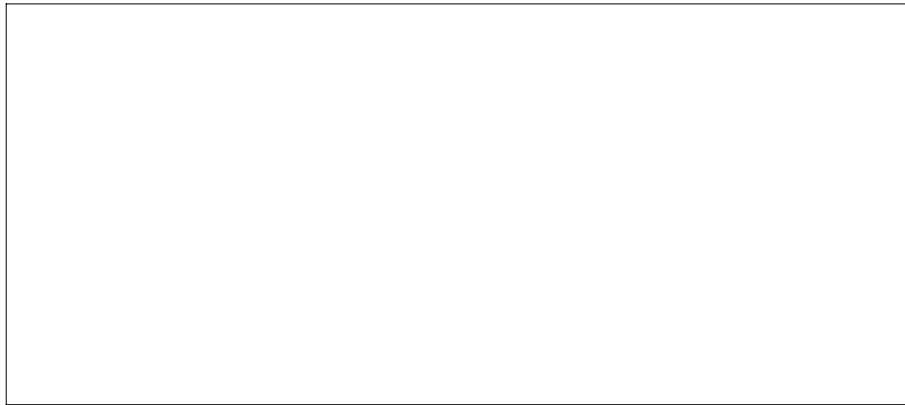


Fig. 5. Incidence curve of colorectal cancer by age among males in Seoul (1992-1995), Osaka (1988-1992), and Los Angeles, White (1988-1992).

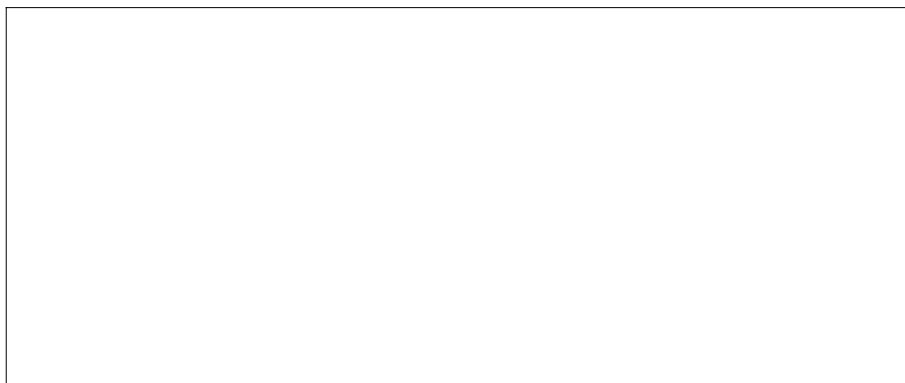


Fig. 6. Trend of cancer mortality rate in Males, Korea, 1987-1996.

factors, either xenobiotics or autobiotics, seem to play roles in the increasing risk late in the life.

MORTALITY PATTERNS

Cancer is the first leading cause of death for Koreans. The crude annual death rate of cancer in 1995 was 143.6 per 100,000 for males, and 82.1 for females in Korea. The ASR was 179.0 in males and 73.5 in females. Cancer death accounted for 24.1% of all deaths in males and 17.7% in females.

Looking at the cancer mortality trend according to age group separately, with reference to the Annual Reports on the Cause of Death Statistics for ten years, 1987~1996, different patterns between age groups could be observed. In 35~64 years

group, there was no marked change in mortality trend. In older age group, however, the cancer mortality has been increased, from around 800 of ASR in 1987 to 1400 in 1996 in males, 75% of increase (Fig. 6). In females, nearly same trend was seen as in males, from around 300 of ASR in 1987 to 520 in 1996, 73% of increase in the age group of 65 years and over (Fig. 7).

Major cancer sites among cancer deaths in males were stomach (23.3%), liver (23.5%), lung (19.7%), and colorectum etc. Deaths due to stomach, liver, and lung cancer accounted for two-thirds of all cancer deaths in males. In females, stomach (24.4%), liver (12.8%), colorectum (6.9%), breast (4.9%), and uterine cervix (4.7%) were the major sites among cancer deaths.



Fig. 7. Trend of cancer mortality rate in Females, Korea, 1987-1996.

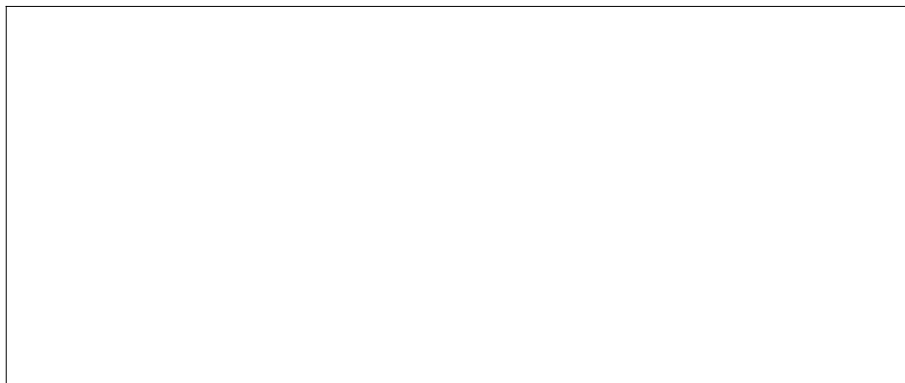


Fig. 8. Trend of stomach cancer mortality rate by age group, Korea, 1987-1996.

Gastric cancer mortality decreased gradually on the whole during last ten years. This decreasing trend was marked in middle aged, 35 ~ 64 years, group, not in older age group (Fig. 8). There was no change in trend of liver cancer mortality during ten years in both sexes, while lung cancer mortality has increased in both sexes and all age groups (Fig. 9). Colorectal cancer mortality has increased during ten years in both sexes, and more markedly in older age group. Female breast cancer mortality has also increased during last ten years. It has increased more rapidly in older age group, and finally it passed over the mortality of middle aged group (Fig. 10).

CANCER CONTROL PROGRAMS

Medical insurance, either public or private, covers

almost Koreans. And most medical insurance companies provide free health check up program biennially to selected beneficiaries. At the biennial health check up, beneficiaries, mostly aged over 40 years, are offered to participate, half-pay of charge, the early detection or mass screening programs for specific cancer sites such as stomach, liver, colorectum, breast and uterine cervix. But still now, less than 10% of target population on the whole participate in the program. As well as low participant rate in early detection programs, public education or publicity is not active, too. So, consequently early detection rate of cancer is relatively low. For instance, among the gastric cancer patients only about 15% are diagnosed at their stage 1 or less.

It was not until 1995 that the Korean government paid attention to national cancer control program.



Fig. 9. Trend of colorectal cancer mortality rate by age group, Korea, 1987-1996.

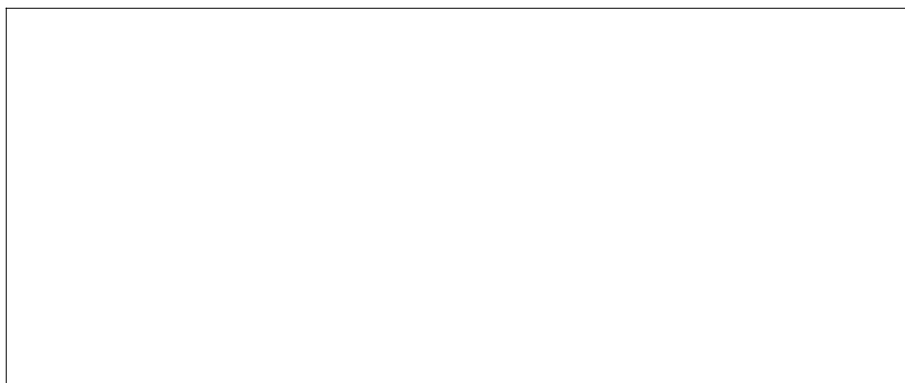


Fig. 10. Trend of breast cancer mortality rate by age group, Korea, 1987-1996.

There are five population-based cancer registries in Korea, which are financially supported in part by government, as of 1998. All of them are in metropolitan cities such as Seoul, Pusan, Daegu, Kwangju, and Incheon. And most of them were launched recently, after 1995, except Seoul cancer registry.

In 1995, the "Ten Year Plan for Cancer Control, Korea" was formulated by a task force, which was initiated by government. The plan includes governmental support financially for various cancer control programs and researches. The Government adopted the plan as a national policy in 1996, and established the "Planning Council for Cancer Control" as steering committee for the forwarding programs. The economic crisis of Korea in 1997, however, hindered the plan in carrying out. The Government has hard situation to draw up a budget and set down original programs in the budget, too. During three years of 1996~1998, budgetary measures of only 4 billion Korean Won, 4.3% of necessary adjustment in the plan, have been made.

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