



Snapshot

Hepatocellular carcinoma statistics in South Korea

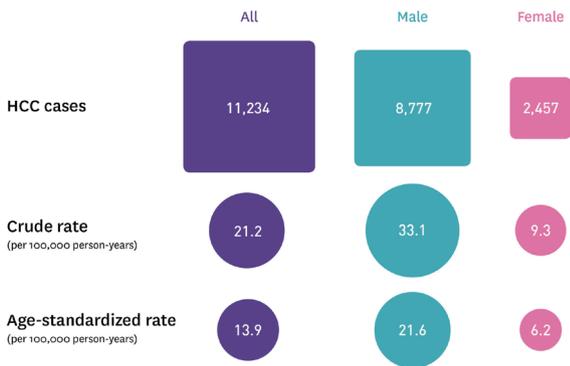
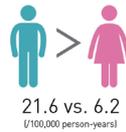
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Incidence of HCC (2018)

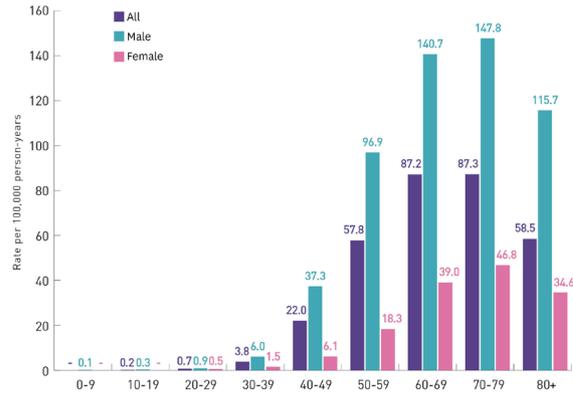
Incidence of HCC: Patients newly diagnosed with HCC from Korean National Health Insurance Service (KNHIS) database
Definition of HCC: International Classification of Diseases (ICD) code of C220 and rare incurable disease code of V193 (severe cancer)

*Standard population: population covered by health insurance in 2005



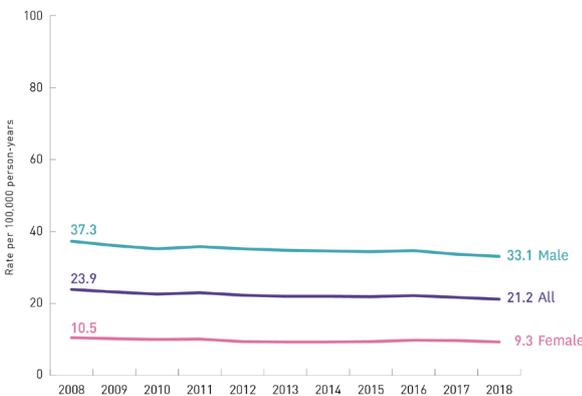
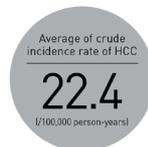
2021 HCC FACTSHEET IN KOREA

Crude incidence rate of HCC by age (2018)



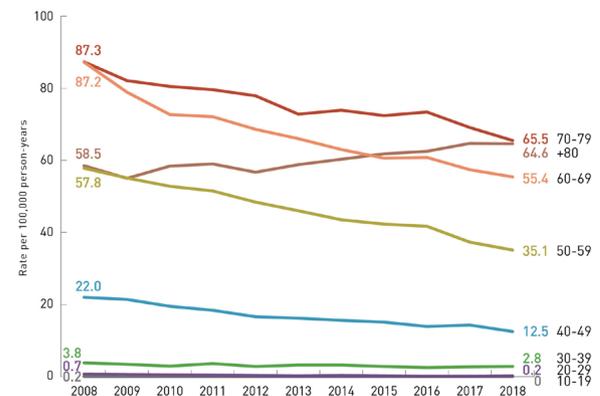
2021 HCC FACTSHEET IN KOREA

Changes in the crude incidence rate of HCC for the past 10 years



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Changes in the crude incidence rate of HCC by age for the past 10 years



2021 HCC FACTSHEET IN KOREA

Keywords: Crude incidence rate; Hepatocellular carcinoma; Incidence; South Korea

Primary liver cancer is the sixth most common cancer worldwide and in South Korea (fifth in men and sixth in women).^{1,2} Hepatocellular carcinoma (HCC) accounts for the majority of primary liver cancer.³ Considering the high incidence and the poor prognosis of HCC, research on the epidemiology of HCC in South Korea is an important public health issue.⁴ The Korean Association for the Study of the Liver has recently published “2021 Hepatocellular Carcinoma Factsheet in Korea” to provide comprehensive information on HCC in South Korea, including the incidence, etiology, and comorbidities of HCC.⁵ Here in this Snapshot, we report the incidence of HCC in South Korea over the past 10 years, based on the data of “2021 Hepatocellular Carcinoma Factsheet in Korea.”

The “2021 Hepatocellular Carcinoma Factsheet in Korea” used the data of HCC patients enrolled in the Korean National Health Insurance Service Database. HCC diagnosis was made when patients had both C220 (International Classification of Diseases code) and V193 (rare incurable disease code). In 2018, HCC was newly diagnosed in 11,234 patients (8,777 in male and 2,457 in female). A crude rate (CR) of HCC incidence was 21.2 per 100,000 person-years (33.1 per 100,000 person-years in male and 9.3 per 100,000 person-years in female). An age-standardized rate of HCC incidence was as 13.9 per 100,000 person-years (21.6 per 100,000 person-years in male and 6.2 per 100,000 person-years in female). According to the data from Statistics Korea, the CR of liver cancer incidence was 30.7 per 100,000 person-years (45.8 per 100,000 person-years in male and 15.6 per 100,000 person-years in female).² The reason for the difference from our data is

believed to be that the data of Statistics Korea included other types of liver cancer, such as intrahepatic cholangiocellular carcinoma (C221), hepatoblastoma (C222), and others. In 2018, stomach cancer had the highest incidence (CR, 57.1 per 100,000 person-years), followed by thyroid cancer (55.8 per 100,000 person-years) and lung cancer (55.8 per 100,000 person-years). Liver cancer ranked sixth (30.7 per 100,000 person-years), while prostate cancer ranked seventh with an incidence of 29.0 per 100,000 person-years, followed pancreatic cancer (14.8 per 100,000 person-years). Therefore, in addition to the CR incidence of liver cancer, the CR incidence of pure HCC of our study (21.2 per 100,000 person-years) was also higher than that of pancreatic cancer, which ranked eighth.

The CR of HCC incidence in 2018 was depicted according to age groups. The CR was the highest among patients aged 60–79 years (87.2 per 100,000 person-years in the age 60–69 group and 87.3 per 100,000 person-years in the age 70–79 group). The second and third highest incidence rate groups were patients aged ≥80 years (115.7 per 100,000 person-years) and those aged 50–59 years (96.9 per 100,000 person-years), respectively. In patients under age 30, the CR was lower than 1 per 100,000 person-years. According to the 2018 Statistics Korea data, liver cancer was not in the top 5 for patients aged under 64 years, but it ranked fifth among patients older than 65 years after lung, colon, stomach, and prostate cancers, with the CR of 109.3 per 100,000 person-years.² Compared to other types of cancer, HCC has a relatively high incidence rate in older patients.

Abbreviations:

CR, crude rate; HCC, hepatocellular carcinoma

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This Snapshot showed the changes in CR of HCC incidence over 10-year period (from 2008 to 2018). The CR of HCC incidence remained similar from 23.9 per 100,000 person-years in 2008 to 21.2 per 100,000 person-years in 2018, with the change being statistically insignificant (average percent change, -0.94%; $P=0.640$). The CR of male patients was 37.3 per 100,000 person-years in 2008, and 33.1 per 100,000 person-years in 2018. The CR of female patients was 10.5 per 100,000 person-years in 2008, and 9.3 per 100,000 person-years in 2018. Neither of the changes in CR during 10 years in both genders showed significant difference. Despite the decreasing trend in the incidence of HCC cases over the 10 years (12,056 in 2008 → 11,234 in 2018; average percent change, -0.42%; $P<0.001$), the maintenance of CR may be due to the aging of the Korean society, which was more pronounced in the age group analysis. The changes in CR of HCC incidence during 10 years according to age groups were analyzed. In all age groups except for 80 years or older, the CR decreased from 2008 to 2018. However, in patients aged ≥ 80 years, the CR increased significantly over 10 years (58.5 per 100,000 person-years in 2008 → 64.6 per 100,000 person-years; average percent change, 1.4%; $P<0.001$). The difference of HCC incidence among age groups and the increasing trends of HCC among old age seem to be consistent in other countries. In Taiwan (from 2003 to 2011), the incidence of HCC in patients over the age of 65 years significantly increased with an annual percentage change of 1.3%, whereas HCC patients aged under 64 years showed a reducing trend of HCC incidence.⁶ In the United States from 1992 through 2015, the incidence of HCC decreased among younger and middle-aged adults regardless of sex, race, or ethnicity.⁷

The HCC incidence in 2018 was the seventh highest among all cancer types in South Korea, and the crude incidence has not decreased over the past 10 years. Since HCC is often diagnosed at an advanced stage compared to other cancers, it tends to have a worse prognosis. Specifically, when HCC occurs in the elderly, it is more difficult to treat due to their frailty, and these patients become a part of the growing social burden in an aging society. Future strategies are needed to reduce the HCC incidence in the entire population of South Korea as well as in elderly patients, and to provide proper age-specific treatment for HCC patients.

Authors' contributions

Conception, Study design, Contribution to the data acquisition and statistical analysis, Writing papers: Young Eun Chon, Soung Won Jeong, and Dae Won Jun

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Conflicts of Interest

The authors have no conflicts to disclose.

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