



Gender Differences in the Burden of Hepatitis B and C Virus Infections in Armenia

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Background

The burden of Hepatitis B and C viruses (HBV and HCV) is caused by acute and chronic infections, cirrhosis and hepatocellular carcinoma (HCC). These viruses are responsible for up to 80% of HCC cases and two-thirds of cirrhosis cases. Compared to women, men are at higher risk of developing these conditions. Within the CATINCA project, we sought to quantify sex differences of HBV and HCV-related burden in Armenia.

Objectives

- To calculate sex specific burden of HBV and HCV in Armenia using Disability adjusted life years (DALYs).
- To include in the calculations the burden caused by chronic HBV and HCV infections.
- To contribute to the reduction of HBV and HCV related burden in Armenia through informing policy makers and enabling them to plan and implement well targeted activities.

Methods

In 2021, a countrywide seroprevalence study among adult population of Armenia provided data on the prevalence of chronic HBV and HCV infections. Data on incident cases and deaths from acute HBV and HCV infections, cirrhosis and HCC were received from the national e-health operator "Armed". The GBD study approach with some modifications was applied to calculate HBV and HCV-related DALYs among males and females.

Results

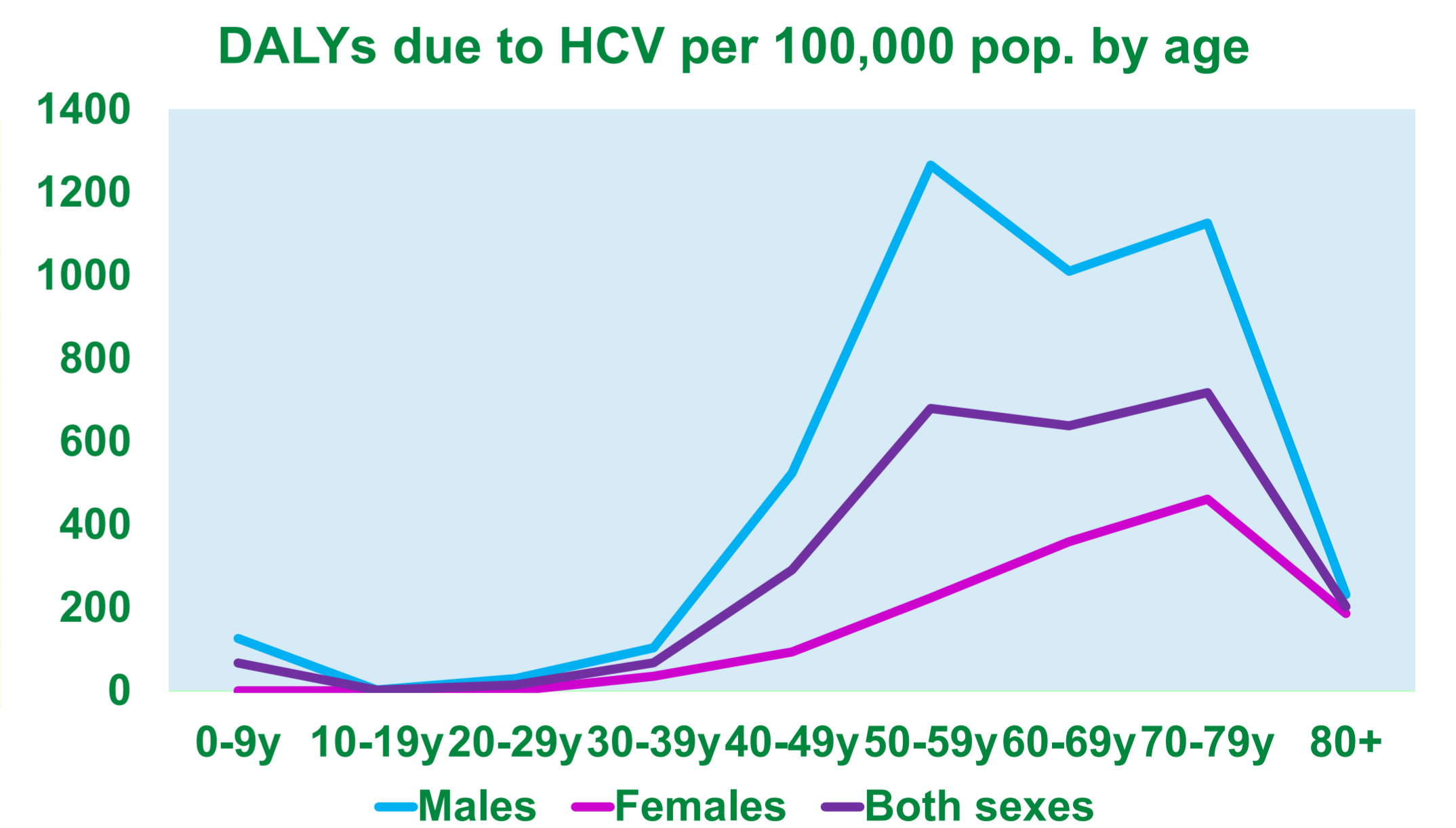
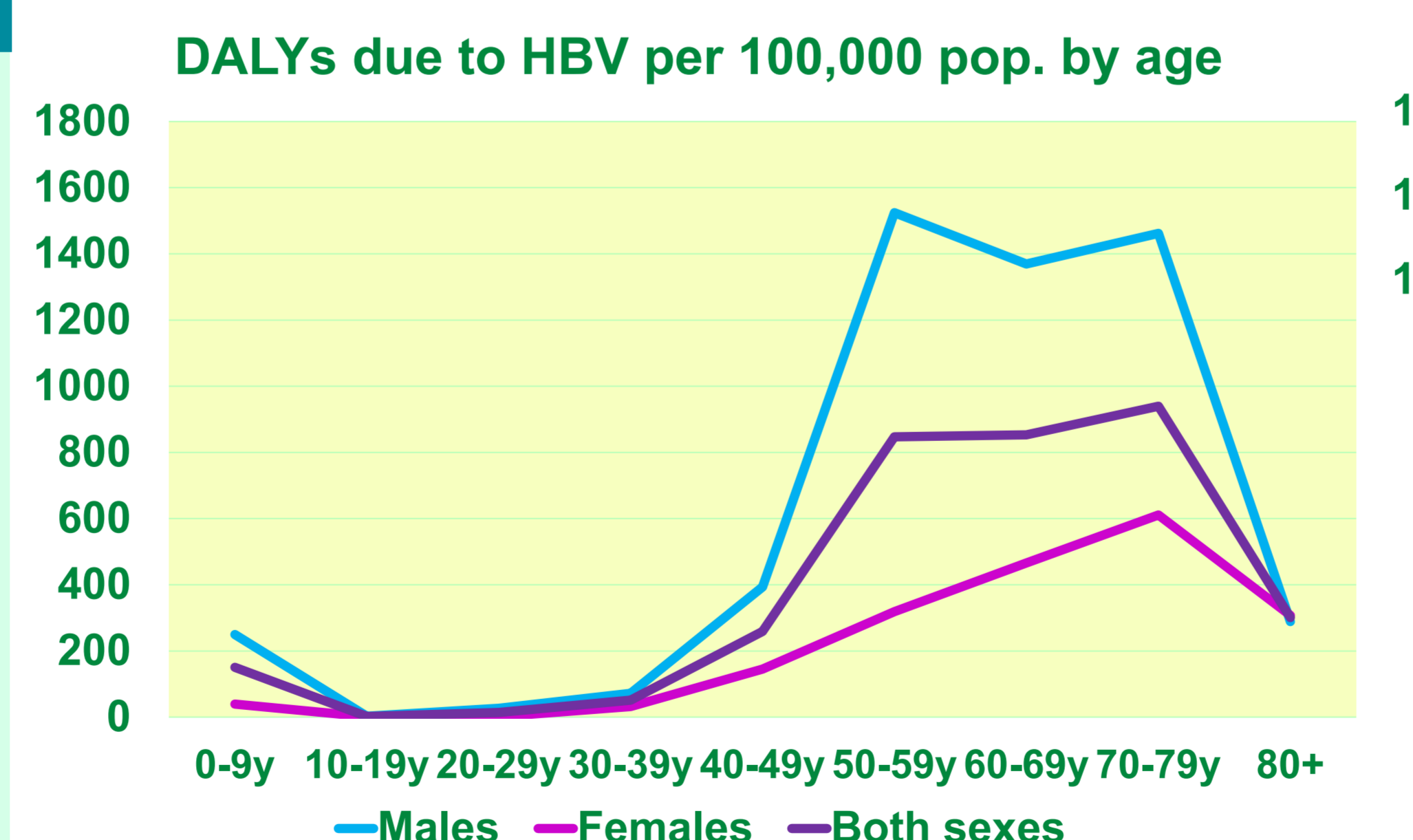
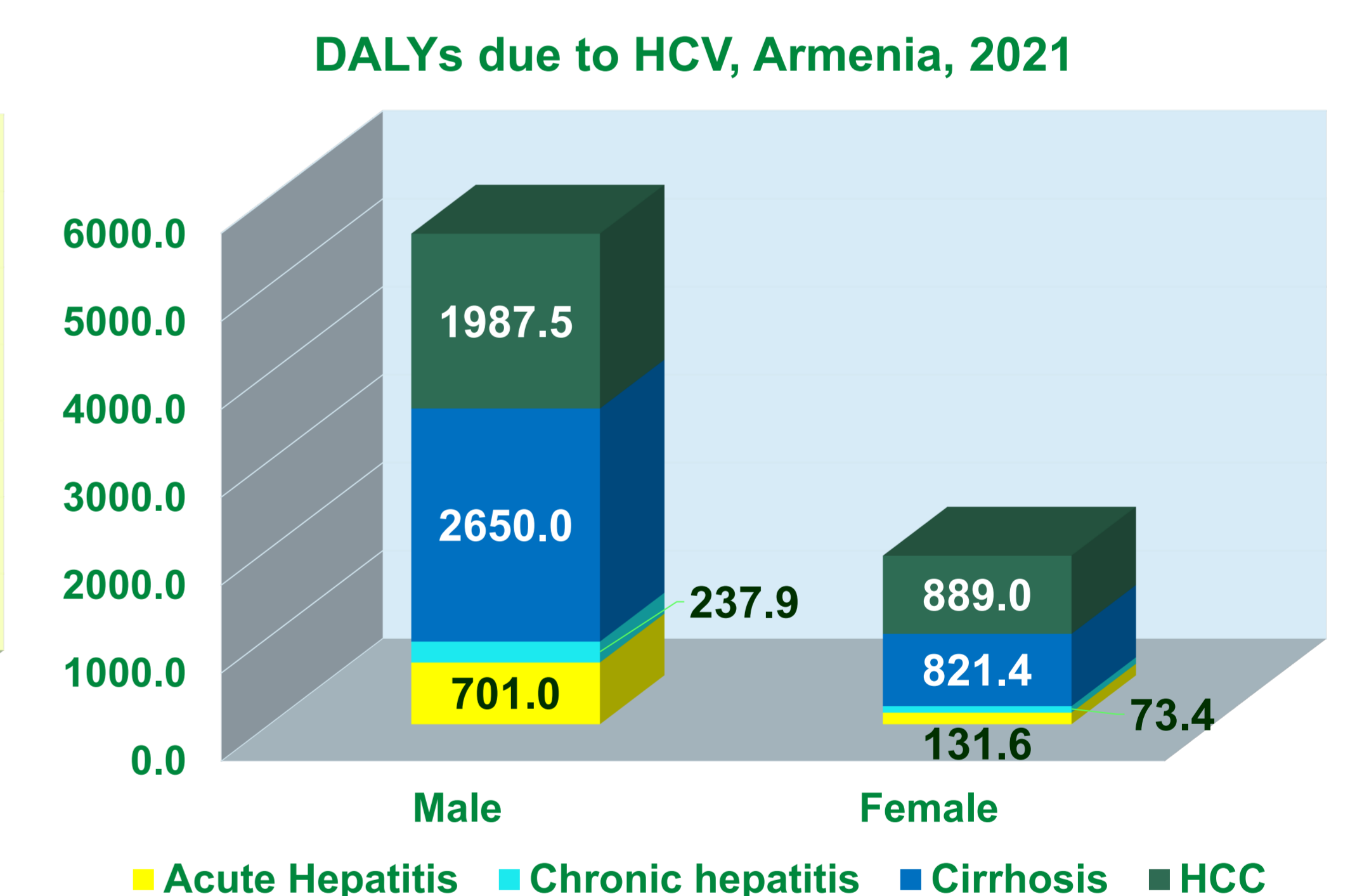
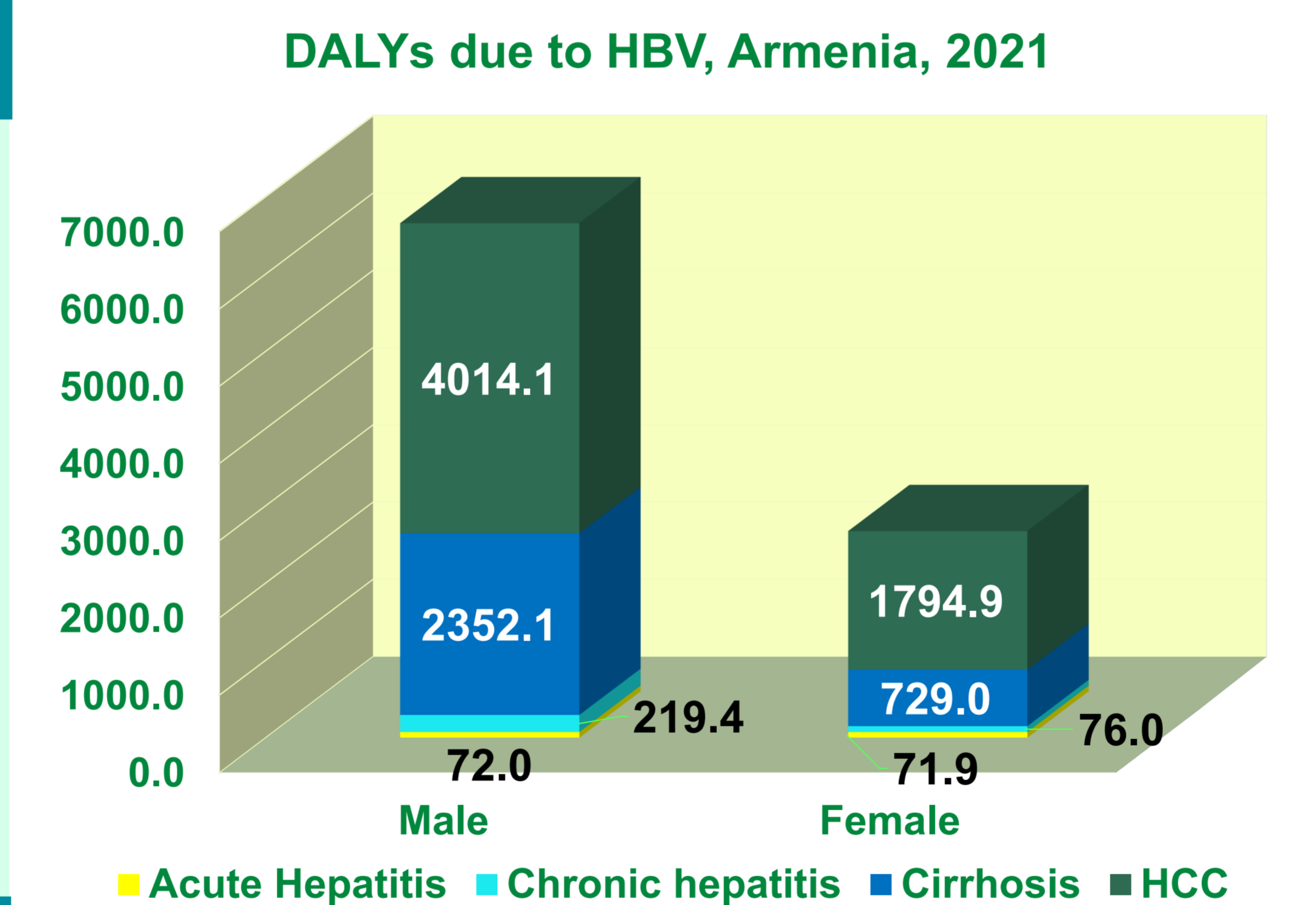
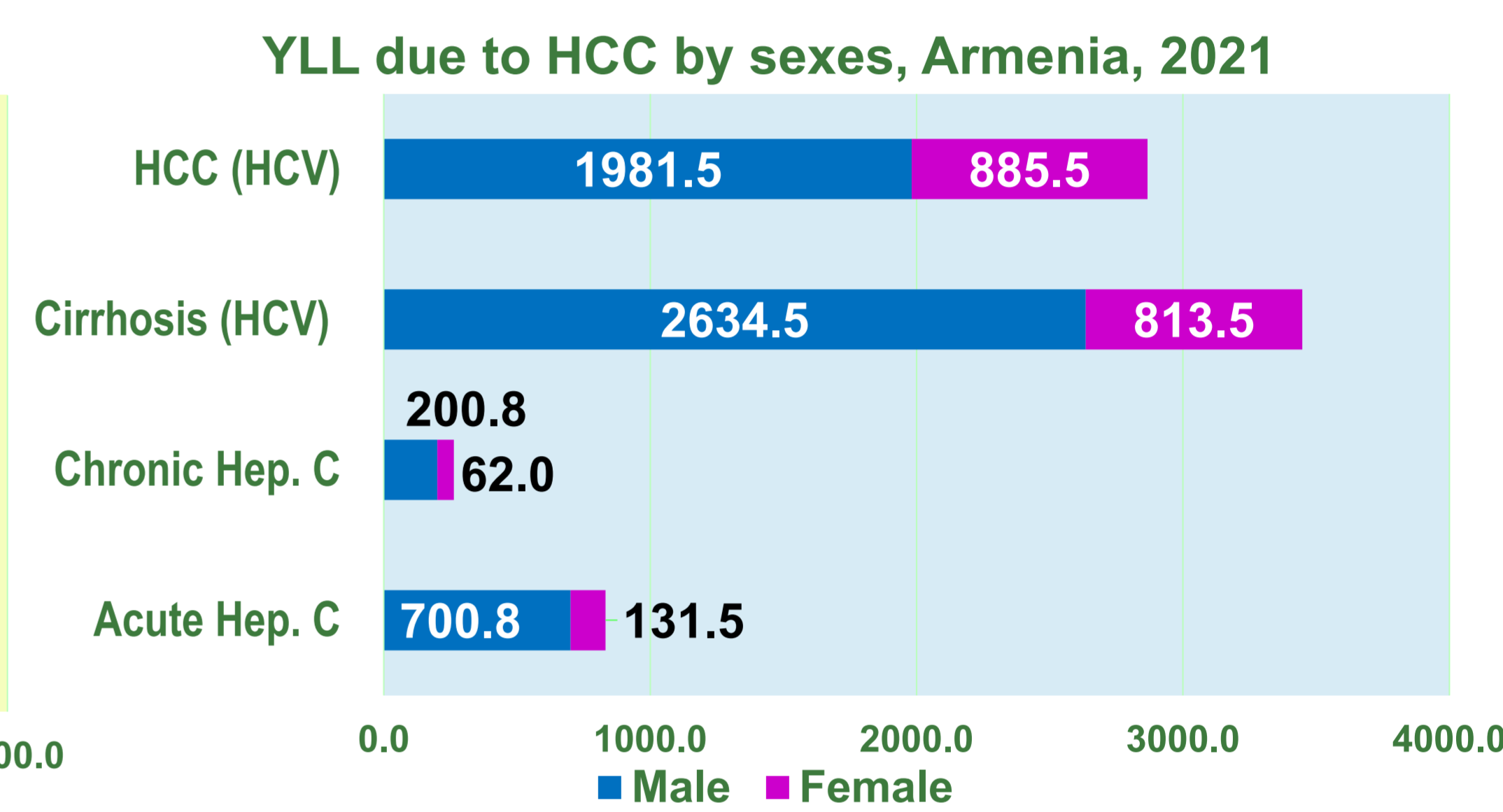
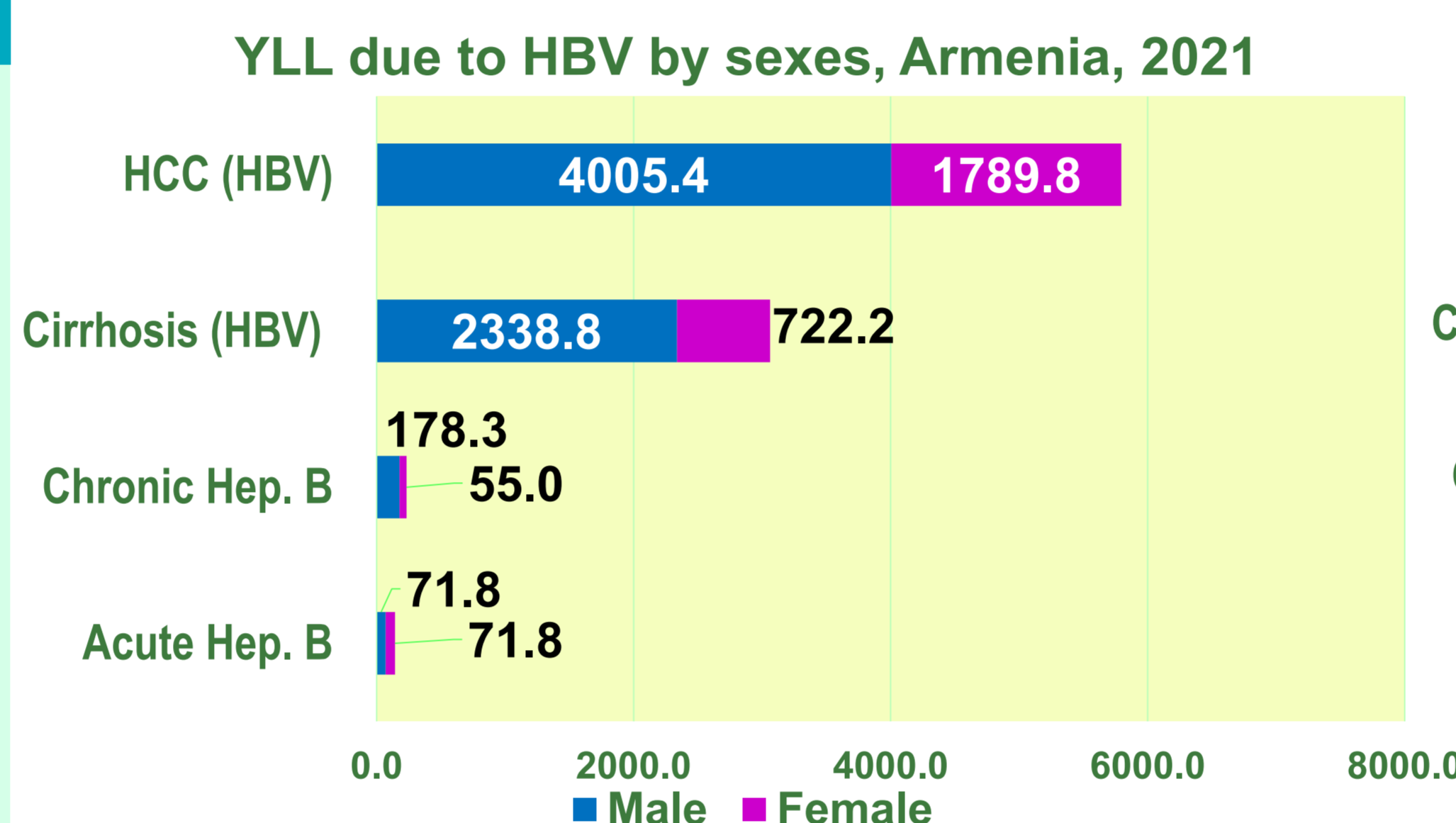
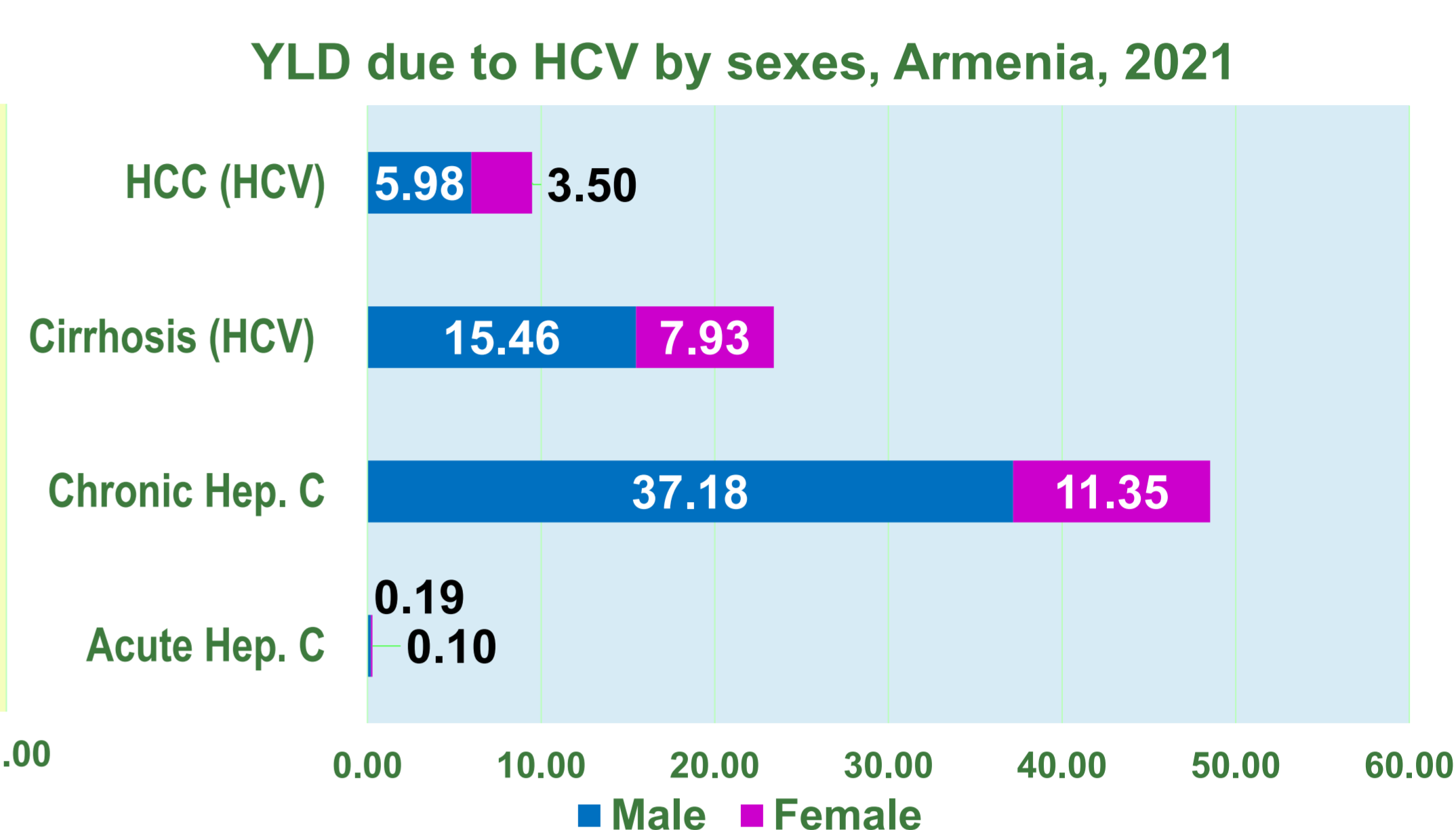
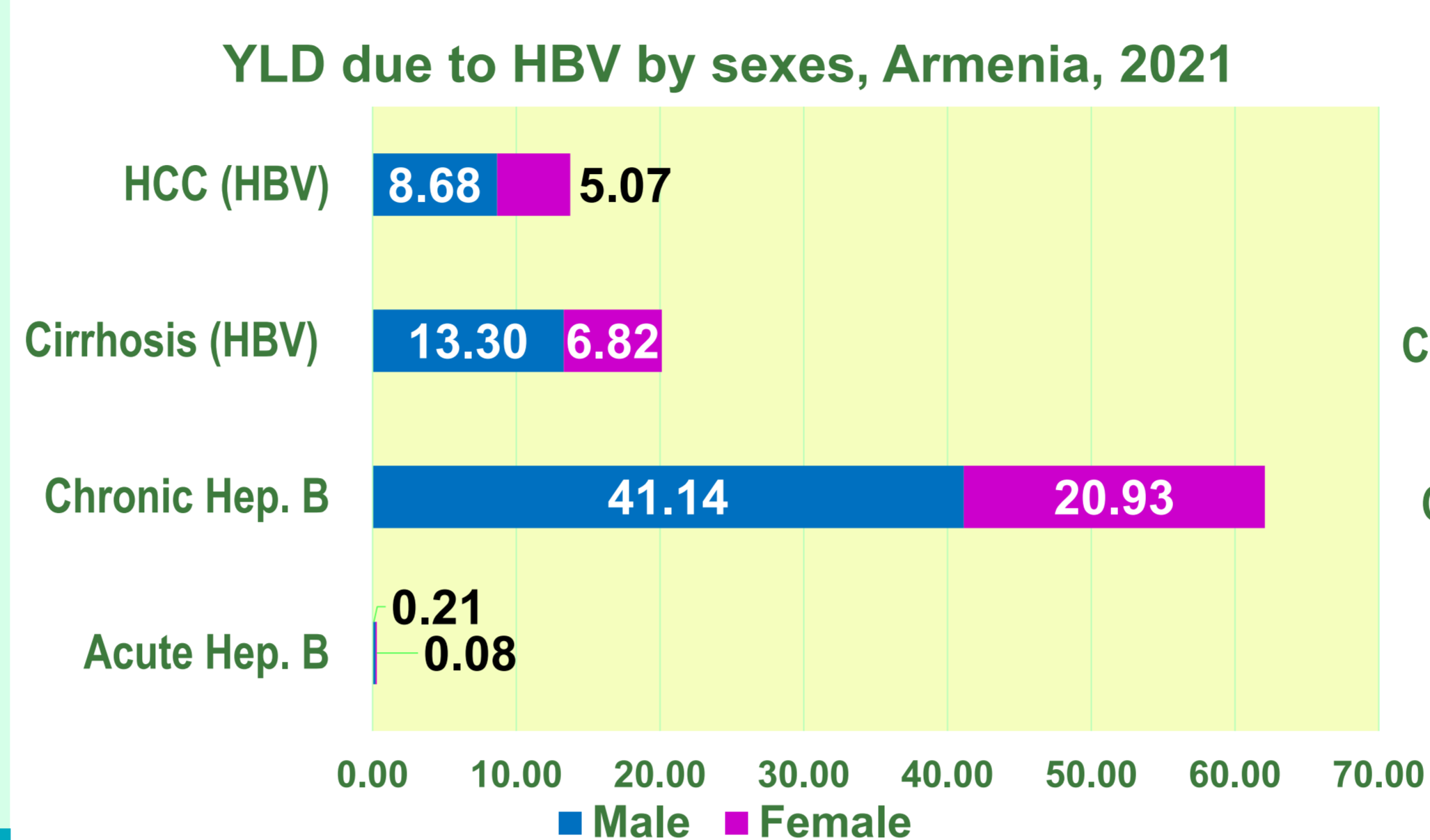
HBV caused 6657.6 DALYs among men and 2671.8 DALYs among women (male/female ratio=2.5). HCV caused, respectively, 5576.4 and 1915.3 DALYs (male/female ratio=2.9). For both viruses, the main portion of DALYs was attributable to cirrhosis and HCC (33.0% and 62.3%, respectively, for HBV, while 46.3% and 38.4%, respectively, for HCV). Years of life lost (YLL) constituted the vast portion of DALYs (99.0% of HBV-related and 98.9% of HCV-related DALYs). For both HBV and HCV, chronic infection caused over half of Years lived with disability (YLD).

Age-standardized HBV-related DALYs were 404.8 for men and 120.4 for women, while HCV-related DALYs were, respectively, 338.9 and 83.0 (per 100,000 pop.).

Conclusions

In Armenia, the HBV and HCV related burden is nearly three times higher among men compared to women. This knowledge is vital for efficient resource allocation to reduce the burden of these viruses.

Findings in Figures



- Both YLD and YLL caused by HBV or HCV are much higher among males compared to females for all three chronic conditions: chronic infection, cirrhosis, and hepatocellular carcinoma (HCC).
- Chronic infections cause the largest portion of YLDs for both viruses and both sexes.
- For both viruses, YLL constitutes the vast portion of DALYs and is mainly attributable to cirrhosis and HCC, indicating a problem with early detection and treatment of these conditions in Armenia.
- For both viruses, the burden is the highest among 50-79 years old men and 70-79 years old women.

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