

ANALYSIS OF TRENDS IN THE INCIDENCE OF ACUTE HEPATITIS B VIRUS INFECTION IN THE REPUBLIC OF SERBIA IN THE PERIOD FROM 2003 TO 2022.

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Background: Hepatitis B virus (HBV) is a common worldwide blood-borne pathogen. WHO estimates that 254 million people were living with chronic hepatitis B infection in 2022, with 1.2 million new infections each year. In 2022, hepatitis B resulted in an estimated 1.1 million deaths, mostly from cirrhosis and hepatocellular carcinoma (primary liver cancer). Hepatitis B can be prevented by vaccines that are safe, available and effective. Chronic hepatitis B can progress to an inactive carrier state, and then, in some patients, give rise to cirrhosis and cancer of the liver, leading to death. An HBV surface-antigen vaccine is effective, but treatments are currently not curative.

Methods and objectives: Descriptive analysis of HBV cases notified from 2003-2022 in the national hepatitis register of the Institute of Public Health of Serbia. Overall incidence rates for acute HBV infection were calculated.

The number of reported patients with acute HBV infection in the observed years will be used as a numerator when calculating the incidence rates of acute HBV infection (all persons diagnosed according to the International Classification of Diseases, 10th revision with codes B16.1 and B16.9). As the denominator of the incidence rate, the estimated number of inhabitants in the middle of each year is used, according to the data of the Republic Institute of Statistics.

General, age-specific and standardized incidence rates will be calculated, and the world population according to WHO will be used as the standard population. Based on the joinpoint regression analysis, the average annual percentage changes in the incidence trend will be estimated and the periods when significant changes occurred will be identified.

Results: The total number of registered cases of acute HBV infection was 4020. The ratio of men to women was 1.7:1. Statistically significant difference in sex ($p < 0.001$) is notified among the respective age groups: 20-29, 30-39, 40-49. Crude incidence rates for acute hepatitis B virus infection ranged from 4.92 to 0.25 per 100.000 population, while standardized ranged from 4.81 to 0.21. From 2003 to 2017, the annual incidence rate decreased by 6.2 (C I 9.79 -1.79) based on joinpoint regression analysis.

Conclusions: In the period from 2003 to 2017, a significant decrease in the frequency of acute HBV infections was recorded.

Keywords: Acute HBV infection, incidence rate, age-specific and standardized incidence rates, joinpoint regression analysis