

## **BURDEN OF LIVER CANCER ATTRIBUTABLE TO HEPATITIS B VIRUS (HBV) AND HEPATITIS C VIRUS (HCV) INFECTION IN ASEAN**

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### **ABSTRACT**

Cancer is a disease in humans that can cause death it also becomes one of health problems faced by the whole world. One of the causes of cancer is an infectious agent. HBV and HCV are infectious agents that can cause liver cancer. GLOBOCAN 2018 shows an overview of the incidence and mortality rates in several countries, including countries in ASEAN for 36 types of cancer, including liver cancer caused by both HBV and HCV. The objectives of this research are to estimate the morbidity of liver cancer and premature mortality cost caused by infectious agents (HBV and HCV) in ASEAN countries.

This research is a descriptive study, using data on morbidity and mortality rates due to cancer in ASEAN countries from the GLOBOCAN 2018 database divided into gender and age-groups. Relative Risk (RR) from liver cancer and prevalence from each HBV and HCV is used to calculate Population Attributable Fractions (PAFs), which are estimates of the incidence of cancer in a country due to certain infectious agents that should be avoided. Morbidity and mortality from liver cancer related to HBV and HCV obtained from multiplying PAF and morbidity or mortality data from GLOBOCAN 2018. Data life expectancy and average income from each country are needed to calculate premature mortality cost.

Morbidity liver cancer associated with HBV and HCV in ASEAN for male group shows that the highest morbidity is Vietnam (6.43% and 21.61%) and for female group is also Vietnam (7.77% and 7.25%). The highest premature mortality cost for liver cancer caused by HBV is Thailand (US\$ 49.32 million) and for HCV infection is Vietnam (US\$ 136.14 million). Premature mortality cost liver cancer related to HBV for female group presents that the highest premature mortality cost is Thailand (US\$ 21.26 million), and for HCV is Vietnam (US\$ 39.73 million).

Based on the results of this study, the burden of liver cancer in ASEAN caused by HBV and HCV may seriously affect health costs and quality of life. Preventing the risk factors that cause this disease should be a major priority in the national health plan to reduce the prevalence and mortality of liver cancer due to HBV and HCV in the future. This research has brought the burden of liver cancer to ASEAN, which will be of great significance to health policies and future plans to reduce the prevalence and mortality of liver cancer.

Keywords: liver cancer, HBV and HCV, ASEAN, morbidity, premature mortality cost