INSIGHTS INTO HBV PREVALENCE AND VACCINATION IN THE NORTHERN TERRITORY: A RETROSPECTIVE LONGITUDINAL STUDY

Qama A[1], Cowie BC[1,2], Davis JS[3,4], Davies J[3,5]

[1] WHO Collaborating Centre for Viral Hepatitis, at the Peter Doherty Institute for Infection and Immunity
[2] Victorian Infectious Diseases Service, Royal Melbourne Hospital
[3] Department of Global and Tropical Health, Menzies School of Health Research
[4] Division of Medicine, John Hunter Hospital
[5] The Infectious Diseases Department, Royal Darwin Hospital

Background: Aboriginal and Torres Strait Islander people are disproportionately affected by hepatitis B virus (HBV). This study aimed to determine the HBV prevalence in the Northern Territory (NT) by Indigenous status utilising longitudinal testing data, and to elucidate further information about vaccination following the implementation of standardised vaccination programs in the NT.

Methods: A retrospective analysis of all available HBV serology results in the NT from 1991 to 2011 was conducted. HBV prevalence and vaccination status were calculated according to Indigenous status, age, and sex using individuals' patterns of HBsAg, anti-HBs and anti-HBc serology over repeated tests.

Results: 100,790 people were tested (33.4% Indigenous) between 1991 and 2011, with a total of 211,802 tests performed. The median age at first test was 30.2 years (IQR 23 – 40.2), with 21.9% eligible for standardised vaccination programs based on their year of birth, and a median follow-up time of 4.5 years (IQR 1.9 – 8.6). In 2011, the prevalence of HBsAg positivity was 3.2% (5.2% in Indigenous people), compared to previously published 2011 estimates of 1.7% (4% in Indigenous people). Of 10,975 people who demonstrated no HBV immunity or exposure on their first test, 41 people (0.4%, 73.2% Indigenous) subsequently tested HBsAg positive. 6,473 people had serological evidence of vaccination on their first test, with only one person later developing HBsAg positivity.

Conclusion: An alternative approach has shown a higher HBV prevalence in the NT than previous estimates derived from cross-sectional studies, including a higher prevalence in Indigenous people, although diagnostic test results may reflect a higher than general population prevalence. Despite known challenges in implementing HBV vaccination in the NT, the vaccine failure rate was low. This analysis highlights a greater disparity than previously estimated in HBV prevalence between Indigenous and non-Indigenous Australians in the NT that is not attributable to vaccine failure and requires further investigation.

Disclosure of Interest Statement: No authors declare a conflict of interest.