

## HEPATITIS B IMMUNITY AND SUSCEPTABILITY AMONG PEOPLE LIVING WITH HIV AND HEPATITIS C CO-INFECTION IN MELBOURNE, AUSTRALIA

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**Background:** Hepatitis B virus (HBV) has been reported among gay and bisexual men globally and can be transmitted through both sexual exposure and injecting drug use (IDU). HBV vaccination is recommended for people living with HIV and/or hepatitis C. We aimed to examine HBV immunity and susceptibility among people living with HIV/hepatitis C co-infection.

**Methods:** Data were drawn from co-EC, a prospective study at three primary care clinics, two hospitals and one sexual health centre, aiming to treat and eliminate hepatitis C among people living with HIV. HBV serological data were extracted from clinical records and if not available, HBV serology was performed. Modified Poisson regression with robust variance was used to explore factors associated with HBV susceptibility.

**Results:** Among 200 participants recruited for HCV treatment, 197 were male. During the study 133 males reported sex with  $\geq 1$  other males and 62 reported IDU in the six months prior to enrolment. HBV serology was available for 186 participants with 105 (57%) having documented evidence of prior hepatitis B immunity (HBsAb titre  $>10$  iU). A further 81 (43%) underwent HBV surface antigen (HBsAg) and/or core antibody (HBcAb) testing, of whom 27 (36%) were HBcAb positive and HBsAg negative, indicating immunity due to infection rather than vaccination. Overall 42/186 participants (23%) were both HBcAb and HBsAg negative and classified as HBV susceptible. The prevalence of HBV susceptibility was higher among people enrolled at primary care sites (n=32) compared to sexual health centre or tertiary sites (n=10) (Adjusted Prevalence Ratio 2.89, 95% Confidence Interval 1.51-5.50, p=0.001).

**Conclusion:** In this cohort, approximately one quarter of people living with HIV/HCV co-infection were susceptible to HBV infection at enrolment. The serological data available suggests that many participants may have acquired their immunity through infection rather than vaccination. Efforts to increase HBV vaccination are warranted, particularly in primary care settings.

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