

Non-adherence to anti-viral therapy contributes to virological breakthrough in chronic hepatitis B virus patients in Sydney, Australia

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Aims: Adherence to Hepatitis B virus (HBV) anti-viral therapies is imperative to achieve and maintain viral suppression. To date, there has been limited research which predicts factors associated with non-adherence. Our study aimed to investigate individual, socio-economic, disease/condition, treatment, and health-system related factors in order to better understand the determinants of non-adherence.

Methods: A cross sectional survey of HBV patients undergoing oral anti-viral therapies was undertaken at three Sydney tertiary hospital sites. Patients consented to complete an online self-reported adherence questionnaire and to provide a copy of HBV serology and virology results from 12 months prior. Data were analysed in STATA. Associations were assessed using logistic regression and unadjusted Odds Ratios (OR) with associated 95% Confidence Intervals (95%CI).

Results: The mean age of participants (n=277) was 46.6 years (SD 12.7) mostly male (61%) and born in a country other than Australia (95%). Participants had been diagnosed with HBV for a mean 15 years (SD12) and had received HBV antiviral therapy for a mean 5.3 years (SD 4.7, range=30). Sixty-six participants (23.8%) reported non-adherence (defined as missing >one day of therapy) in the 30 days prior to interview. Participants who reported having no established routine to take medication were 6.6 times more likely to be non-adherent (95%CI 1.7-25). Having adequate health literacy was negatively and independently associated with non-adherence (OR 0.42, 95%CI 0.2-0.87).

Conclusion: To the best of our knowledge, this is the first study to comprehensively assess the associations between risk factors and non-adherence to HBV antiviral therapy. The main findings were that close to a quarter of survey participants were non-adherent to their HBV antiviral therapy in the previous 30 days. Adequate health literacy was negatively and independently associated with non-adherence, and no established routine to take medication was positively associated. These factors must be addressed by future interventions designed to improve adherence. Study findings contribute to the limited body of knowledge, inform clinical practice and enable the provision of targeted patient education.