Background: Hepatitis B Virus (HBV) is one of the leading causes of death worldwide despite a moderately potent vaccine. HBV prevalence has been shown to be higher in patients infected with the Human Immunodeficiency Virus (HIV), hence increased liver related morbidity and mortality, as well as general poor health outcomes in HIV/HBV co-infection. We estimated the HBV incidence among HIV-1 infected treatment naïve adults in a longitudinal cohort in Botswana.

Methods: Plasma samples from 200 HIV-1C infected treatment naïve participants from a completed longitudinal cohort from 2004 to 2007 were screened for HBV surface antigen (HBsAg). HBsAg was assessed using Murex Version 3 enzyme linked immunosorbent assay as per the manufacturer’s instructions at four time points, 12 months apart. We estimated HBV incidence with 95% confidence interval (CI). Cox proportional regression method was used to estimate hazard ratios [gender, age (≤35 or >35) years, CD4+ T cell count (≤450 or >450) cells/µL and HIV viral load suppression (≤400 or >400) copies/mL].

Results: The median age of screened individuals was 32 years [Q1, Q3; 28, 40] and 83.5% [167/200] were female. Baseline median CD4+ T cell count was 466.35 cells/µL [Q1, Q3: 380.43, 605.75] and median HIV viral load was 13450 copies/mL[Q1, Q3: 2365, 37400]. The HBV incidence was 3.6/100 person-years [95% CI: 2.2-5.6]. There were no significant differences by gender, age, HIV viral load suppression and CD4+ T cell count.

Conclusions: We report for the first time, a high HBV incidence among HIV infected adults in Botswana. HBV incidence was high in this population despite generally high CD4+ T cell counts and lower HIV viral loads. Early screening of HBV in HIV infected individuals is vital and should be included in the national HIV treatment guidelines.