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HIV and chronic hepatitis B virus co-infection in sub-Saharan Africa: a deadly synergy

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Since 1990, mortality due to viral hepatitis, currently the seventh leading cause of death globally, has increased by 63%. The WHO has set a strategy to eliminate viral hepatitis as a public health threat by 2030, which includes reduction of new hepatitis B virus (HBV) infections by 90%, uptake of treatment by 80% of eligible individuals and 65% reduction in mortality compared to 2015.[1] Africa bears one of the highest burdens, with a prevalence of chronic hepatitis B of 6.1% (60 million individuals), and 87 890 annual deaths.[2]

An estimated 2.6 million people living with HIV (PLHIV) suffer from chronic hepatitis B in Africa. HIV co-infection is associated with a more severe form, evidenced in higher HBV replication, higher rates of reactivation, chronicity of new infections and faster progression to liver fibrosis and hepatocellular carcinoma.[3,4] HIV also facilitates mother-to-child transmission of HBV.[3]

In this issue of *Public Health Action*, Goverwa-Sibanda et al. undertook a cross-sectional study to describe the proportion of PLHIV who tested positive for chronic hepatitis B, and their antiretroviral therapy (ART), in Bulawayo, Zimbabwe.[5] Of the 422 PLHIV enrolled, 361 (85%) were screened for chronic HBV infection, and 38/361 (10%) tested positive, in keeping with figures from the region. HBV surface antigen (HBsAg) positivity was associated with increased likelihood of anaemia and elevated alanine transaminase levels. Thirty (79%) of the 38 HBsAg-positive individuals were on a regimen with two active components against HBV (tenofovir [TDF] and lamivudine [3TC]) and the remaining eight were on single active agent for HBV (3TC), with clinical justification provided for only five of them.

These data show awareness and implementation of screening for chronic HBV infection. However, 61 PLHIV (15%) were not screened, and 21% of HBsAg-positive patients were treated with 3TC as the sole anti-HBV molecule, which is associated with the development of resistance when given as anti-HBV monotherapy.[6] The study was underpowered to explore predictors of chronic HBV infection, and its cross-sectional design does not allow to infer causality between the observed predictors and chronic HBV infection. Finally, the study centre receives additional support from a non-governmental organisation in Zimbabwe, which may not be representative of the care provided in more remote, rural settings.

ART in PLHIV with chronic HBV infection should contain TDF, a nucleotide reverse transcriptase inhibitor, which has potent activity against both HBV and HIV and a high genetic barrier to resistance, and can prevent progression of liver disease.[3,6] This study highlights that even when successful programmes are in place, some patients are left behind or receive suboptimal treatment. Awareness of HBsAg status at ART initiation and at every switch, inclusion of TDF in the ART and vaccination of susceptible individuals are to be prioritised among PLHIV in order to reach the WHO elimination targets.

The WHO elimination strategy also covers mother-to-child transmission through administration of birth-dose HBV vaccine for all new-borns, completion of the full immunisation schedule and treatment of the mother when indicated.[1] These strategies need to be complemented with the implementation and scale-up of affordable diagnostic assays, linking of patients with chronic HBV infection to care, and the reduction of HBV-associated stigma.[3]

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