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TREAT-B or Treat All: time for a broader vision on hepatitis B elimination

Author's reply

We value the concerns raised by Ankur Jindal and Shiv K Sarin regarding our hepatitis B virus (HBV) modelling work on cost-effective strategies for determining eligibility for antiviral therapy in The Gambia.¹ Our cost analysis adequately considered the expenses associated with monitoring individuals who did not initiate antiviral therapy. Moreover, following the International Society for Pharmacoeconomics and Outcomes Research guidelines,² our model did not incorporate productivity losses and lost wages. We do not agree that the modelling studies referenced by the authors are relevant to our work, as they showed the cost-effectiveness of antiviral therapy in individuals eligible for treatment, compared with no treatment, without assessing the Treat-All approach.^{3,4}

The authors advocate for a Treat-All strategy for HBV to potentially mitigate stigma and improve retention in care. However, due to limited real-world data on universal HBV treatment, there is insufficient direct evidence to support this notion. Alternatively, insights from HIV care, for which universal antiretroviral therapy has been recommended by WHO since 2016, could offer valuable perspectives. Despite expectations of reduced HIV-related stigma with increased antiretroviral access, studies in sub-Saharan Africa reveal persistent stigma, particularly due to a heightened visibility of HIV status.^{5,6} Moreover, a systematic review comparing attrition rates between pre-implementation and post-implementation of the Treat-All strategy in Africa showed mixed results, with a majority reporting higher attrition rates post-implementation.⁷ These

findings underscore the importance of assessing the acceptability and feasibility of a Treat-All strategy for HBV before widespread adoption.

Because treatment eligibility criteria are imperfect in predicting the risk of liver disease progression, our model suggests Treat-All as the most effective strategy for averting disability-adjusted life years, but it is not cost-effective in The Gambia. Conversely, TREAT-B, though less effective, is likely to be cost-effective due to lower implementation costs. While not perfect, TREAT-B shows acceptable diagnostic accuracy in identifying individuals in African settings who are eligible for antiviral therapy according to the European Association for the Study of the Liver criteria. The Hepatitis B in Africa Collaborative Network (HEPSANET) reported a sensitivity of 90% and a specificity of 87% using an external dataset not used in the original TREAT-B development study.⁸ Additionally, the study suggested that markers readily available even at peripheral health facilities such as aspartate aminotransferase, alanine aminotransferase, and platelet count could effectively identify those needing antiviral therapy.⁸

Identifying individuals eligible for HBV treatment in resource-limited contexts poses challenges. One extreme approach mirrors recommendations from resource-rich countries, requiring costly tests such as viral load or transient elastography. An opposing extreme entails treating all individuals without these tests. A pragmatic middle ground could involve using accessible tests such as TREAT-B (alanine aminotransferase and HBeAg) or the HEPSANET score (alanine aminotransferase, aspartate aminotransferase, and platelet counts), effectively balancing health benefits with resource constraints in these settings.

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