HEPATITIS C TREATMENT FOR PEOPLE WHO INJECT DRUGS: ARE DIRECT-ACTING ANTIVIRALS COST-EFFECTIVE?

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Background: People who inject drugs (PWID) are the main group affected with Hepatitis C virus (HCV) infection. The efficacy of HCV treatment has significantly improved in recent years with the introduction of direct-acting antivirals (DAAs). However, DAAs are more costly than the traditional peginterferon and ribavirin (PegIFN/RBV) therapy. Hence, we aimed to assess the cost-effectiveness of different HCV treatment strategies among PWID.

Methods: An individual-based model was used describing HIV and HCV transmission and disease progression among PWID. We considered two epidemiological situations: a declining and a stable HCV epidemic. Parameters describing the declining HCV epidemic, treatment setting and uptake were derived from data among PWID from Amsterdam. The model was then adapted to reflect a stable HCV epidemic among PWID. We assessed the incremental cost-effectiveness ratio (ICER, costs in euros/quality adjusted life years (QALYs)) of six strategies for both epidemiological situations: 1) No therapy; 2) PegIFN/RBV; 3) DAA/RBV; 4) DAA/RBV for genotype 2-3 and DAA/RBV/PegIFN for genotype 1-4; 5) DAA/RBV for genotype 2-3 and two DAAs for genotype 1-4 and 6) Two DAAs for all genotypes.

Results: In the declining epidemic, treatment with two DAAs for all genotypes is very cost-effective and dominates all other strategies. In the stable epidemic, DAA/RBV for genotype 2-3 and two DAAs for genotype 1-4 is very cost-effective and the dominant strategy. Although the ICERs of the aforementioned dominant strategies are the lowest, all treatment strategies fall below the willingness to pay threshold and are cost-effective when compared to a scenario with no therapy.

Conclusion: HCV treatment with DAA-containing regimes is a very cost-effective intervention among PWID, irrespective of the type of HCV epidemic. Given the increased gain in QALYs by HCV treatment and the low cost per QALY gained, stronger efforts are needed to implement and scale-up HCV treatment among PWID.

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