Reductions in prevalence of advanced liver fibrosis among people who inject drugs in the direct-acting antiviral era: The ETHOS Engage Study

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Abstract

Background: Liver disease is a significant risk for people who inject drugs due to the high burden of hepatitis C virus (HCV). There is limited data on the impact of the direct-acting antiviral (DAA) therapy era on liver fibrosis among people who inject drugs. This study evaluated baseline and longitudinal liver fibrosis in a national cohort of people who inject drugs recruited over three Waves: 2018-2019, 2019-2021, and 2023-2025.

Methods: The ETHOS Engage Study is an observational cohort of people who inject drugs attending drug treatment clinics and needle and syringe programs in Australia. Participants completed a questionnaire including self-reported treatment history and underwent point-of-care HCV RNA testing (Xpert HCV Viral Load Fingerstick; Cepheid) and transient hepatic elastography (FibroScan®, Echosens, Paris, France). Advanced fibrosis was defined by a hepatic elastography score of 9.5 kPa or above.

Results: Among all enrolments with a valid fibrosis result (n=3126, 79% recruited at drug treatment clinics), 11% had advanced fibrosis, decreasing from 14% (178/1287) during 2018-2019 to 9% (71/839) during 2019-2021, and 8% (77/967) during 2023-

2025. In adjusted analyses, participants recruited between 2019-2021 (Wave 2) and 2023-2025 (Wave 3) were less likely to have advanced fibrosis (vs. 2018-2019 [Wave 1]; aOR 0.62, 95%CI: 0.47-0.84 and aOR 0.59, 95%CI: 0.44-0.80 respectively). Among participants with liver fibrosis assessment in more than one wave and current HCV infection at first visit and no current HCV infection at second visit (n=44), advanced fibrosis declined from 20% to 4% at second visit (p=0.023).

Conclusion: The findings demonstrate that unrestricted access to DAA therapies in Australia have reduced the burden of fibrosis among people who inject drugs. Progress towards HCV elimination could further improve liver-related health for this population.

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