Addiction

Engagement with HCV therapy linked to lower deaths from all causes in injecting drug users

Engagement with hepatitis C (HCV) treatment by people who inject drugs is associated with a lower risk of all-cause mortality and drug-related death, a study set in Scotland has found.

Using data from the Tayside clinical database and the Tayside Drug Deaths Database, a cohort of Tayside residents was identified whose risk factor for HCV was 'ever injected' drug use and who had been tested for HCV between 2008 and 2017. Those with other risk factors, such as transfusion of blood products or maternal transmission were excluded as were individuals co-infected with other blood-borne viruses. Study participants were followed up until the end of 2018.

The first analysis compared mortality in those who had active HCV infection (PCR positive) and those who were had been infected but cured spontaneously (PCR negative). The study included 386 age- and sex-matched PCR-negative controls and 386 PCR-positive cases. During the study's follow-up period, there were 135 deaths; 72 deaths (53.3%) were in PCR-positive cases, and 63 (46.7%) were in PCR-negative controls. There were 63 deaths classified as drug related; 34 (54.0%) of these were in cases, and 29 (46.0%) in controls. There was no significant difference between the groups.

The second analysis compared PCR-positive treatment engagers with PCR-positive treatment non-engagers. The study included 263 treatment non-engaging controls and 263 treatment engaging cases. During the follow-up period, there were 141 deaths out of 527 individuals who were PCR positive; 23 deaths (16.3%) were in treatment engaging cases, and 118 (83.7%) in treatment non-engaging controls. Of the 141 deaths, 54 were classified as drug-related deaths; of these 10 (18.5%) were in cases, and 44 (81.5%) were in controls.

Non-engaging controls were at a significantly higher risk of all-cause mortality, χ^2 (2) = 91.395, P < 0.001. The adjusted odds of all-cause mortality were 12 times higher among treatment non-engaging controls, OR 12.15 (95% CI: 7.03-20.99; P < 0.001) compared with treatment engaging cases, after adjustment for age, sex and opioid substitution therapy.

Non-engaging controls had a significantly higher risk of drug-related death, χ^2 (2) = 32.364, P < 0.001. The odds of a drug-related death were 5.5 times higher among treatment non-engaging controls, OR 5.52 (95% CI: 2.67-11.44; P < 0.001) compared with treatment engaging cases, after adjustment for age, sex and opioid substitution therapy.

In a third analysis, the authors compared treatment engaged cohorts treated with interferon and direct antivirals, finding no significant difference in all-cause mortality and drug-related death in the two groups. This suggested that the benefits of treatment engagement are associated with the act of engaging with treatment rather than the specific treatment regimen.

HCV-related liver disease is a significant contributor to morbidity and mortality among people who inject drugs. Identifying those with infection and referral for treatment are important strategies working towards the WHO target of HCV elimination by 2030. Beyond this target there is evidence that engagement with HCV care is associated with positive behaviour change among injecting drug users, and previous studies have demonstrated a positive impact of HCV status notification on injecting and sharing behaviour among this group.

The study authors state: 'These findings provide further evidence of the importance of HCV diagnosis and treatment engagement among people who inject drugs, reducing their risk of mortality, beyond liver-related outcomes.'

They add: 'Data on unmeasured potential confounding variables which may explain the association between engagement and decreased risk of mortality is lacking, with further research needed to elucidate the complex reasons that lead to non-engagement.'

The association between treatment engagement in this study and reduced risk of death may reflect that some of those who fail to engage with HCV treatment are also more likely to experience difficulties and barriers engaging with substance misuse and other health services, and may lead lives characterised by greater overall risk.

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Caven M, Robinson EM, Eriksen AJ et al. Hepatitis C diagnosis and treatment, impact on engagement and behaviour of people who inject drugs, a service evaluation, the hooked C project. *J Viral Hepat* 2020;27:576-84

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