Hepatitis C (HCV) reinfection and risk factors among highly marginalised clients of the Kirketon Road Centre, an integrated primary healthcare service in Kings Cross, Sydney

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Background: The role of reinfection must be better understood to help focus prevention efforts and effectively utilise large investments in HCV treatment. HCV reinfection studies have not focused on primary healthcare services in Australia, where priority populations such as people who inject drugs (PWID) typically engage in healthcare. We aimed to describe the incidence of HCV reinfection and the associated risk factors in a cohort of people most at risk of reinfection in a real world, single service, community setting.

Methods: We conducted a secondary analysis of routinely collected HCV testing and treatment data from treatment episodes initiated with direct acting antiviral (DAA) therapy between October 2016 and June 2021 (n=446). Priority population sub-groups were examined. Risk factors for HCV reinfection were identified using logistic regression models. Incidence rates of reinfection were generated. Potential bias due to loss to follow up was investigated.

Results: Among 413 individuals there were 70 HCV reinfections. Injecting drug use was associated with an almost four-fold increase in the odds of reinfection (OR: 3.62, 95% CI: 1.09-12.06, p=0.02) followed by Aboriginal and/or Torres Strait Islander origin (OR: 3.15, 95% CI: 1.57-6.28, p=0.01). Homelessness doubled the odds of HCV reinfection (OR: 2.33, 95% CI: 1.14-4.78, p=0.021). The odds of HCV reinfection decreased with increasing age (OR: 0.95, 95% CI: 0.93-1.00, p=0.008). The overall HCV reinfection rate was 10.15/100 person-years (95% CI: 9.86-15.03).

Conclusion: Marginalisation is associated with a high incidence of HCV re-infection. As one of the first primary care studies on HCV reinfection, findings support the need for novel and holistic healthcare strategies in that setting. Interventions which focus on patient engagement are at the forefront of diagnosing and treating HCV reinfection in complex marginalised populations, and although challenging to implement, are particularly important as we strive for HCV elimination.

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