REINFECTION FOLLOWING HCV DAA THERAPY AMONG PEOPLE WHO INJECT DRUGS ON OPIOID AGONIST THEARPY: THE PREVAIL STUDY

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Background: Direct acting antiviral (DAA) therapy is highly effective in PWID; however, little is known about rates and factors associated with HCV reinfection following DAA therapy among PWID on opioid agonist therapy (OAT).

Methods: PREVAIL is a randomized control trial that assessed models of HCV care for 150 PWID on OAT in the Bronx, NY. Those who achieved SVR12 (n=141) were eligible for this extension study. Interviews and assessments of recurrent HCV viremia occurred at 6-month intervals for up to 24 months post-SVR24. We used log-rank tests to analyze variables associated with time to reinfection at a two-sided significance level of $p<.05$. Next generation sequencing of HCV hypervariable region (HVR1) differentiated relapse from reinfection.

Results: Of 141 who achieved SVR, 114 had a least one visit in the follow-up study (62% male, mean age 52). At treatment initiation, 75% (n=85) reported ever injecting. Injection drug use (IDU) after SVR24 was reported in 19% (n=22). HCV reinfection was observed in three participants. Over 203.1 person-years (py) of follow-up, the incidence of reinfection was 1.48/100 py (95% CI 0.30-4.32). All reinfections occurred among participants with ongoing IDU. The incidence of reinfection in participants reporting ongoing IDU (18.2 py of follow-up) was 16.5/100 py (95% CI 3.4-48.3). Factors associated with reinfection were homelessness ($p=0.002$), alcohol/drug treatment in the last 6 months ($p=0.003$), and living with someone who injects drugs ($p=0.007$). Risk behaviors associated with reinfection were injecting heroin with speed ($p=0.014$), speed alone ($p<0.0001$), and crack ($p=0.007$), sharing: rigs ($p<0.0001$), cotton ($p<0.0001$), cookers ($p=0.002$), rinse water ($p=0.016$), splitting drug solution with a previously used syringe ($p=0.0001$), injecting with multiple partners ($p=0.035$), and lack of confidence in the ability to avoid contracting HCV ($p=0.019$).

Conclusion: HCV reinfection was low overall, but more common among people with ongoing injecting drug use following DAA therapy.

Disclosure of Interest Statement: This study was funded by the National Institute of Drug Abuse (R01 DA034086) and a pilot grant from the Albert Einstein College of Medicine Liver Research Center P30DK41296.