

INCIDENCE OF HEPATITIS C VIRUS (HCV) AND HIV INFECTION AMONG PEOPLE WHO INJECT DRUGS: A SYSTEMATIC REVIEW AND META-ANALYSIS

Artenie A^{1,2}, Stone S^{1,2}, Fraser H^{1,2}, Arum C^{1,2}, Lim AG^{1,2}, McNaughton A^{1,2}, Trickey A^{1,2}, Ward Z^{1,2}, Hickman M^{1,2}, Vickerman P^{1,2}

¹Population Health Sciences, University of Bristol, Bristol, UK

²National Institute for Health Research Health Protection Research Unit in Behavioural Science and Evaluation, University of Bristol, Bristol, UK

Background: The incidence of hepatitis C virus (HCV) and HIV infection among people who inject drugs (PWID) is key to planning prevention strategies and to monitoring progress towards achieving elimination. We conducted a systematic review and meta-analysis to synthesize global data on HCV and HIV incidence among PWID.

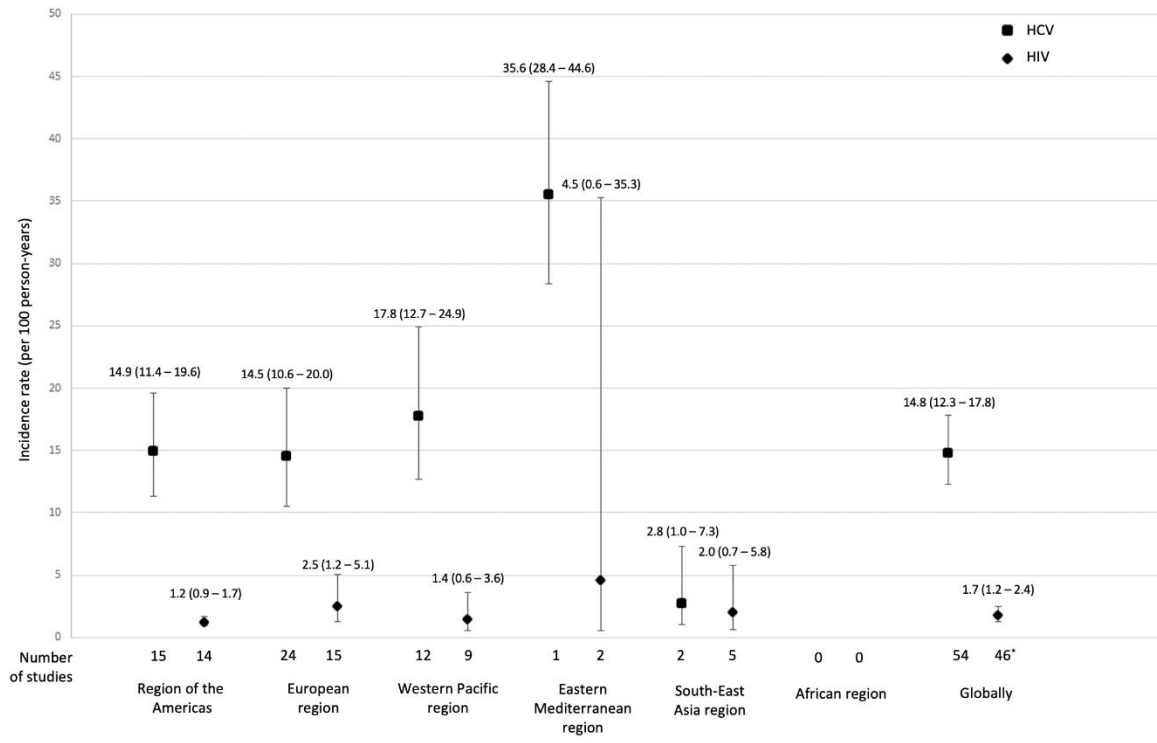
Methods: We searched MEDLINE, Embase and PsycINFO for studies published between 01/01/2000 and 14/09/2020 that estimated HCV or HIV incidence among community-recruited PWID. We only included studies that estimated incidence by longitudinally re-testing people at-risk of infection or by using tests for recent infection. Only primary HCV infection was considered. We used random-effects meta-analysis to pool estimates and a modified version of the Newcastle-Ottawa scale to assess risk-of-bias in included studies.

Results: Of 57,160 records retrieved, we identified 54 and 46 estimates for HCV and HIV, respectively, derived from 25 countries. More estimates originated from high-income (HCV: 45, HIV: 24) than from low or middle-income countries combined (HCV: 9, HIV: 22). Seventeen countries had estimates for both HCV and HIV. Most estimates (HCV: 61%, HIV: 70%) were derived from a single city. Globally, the pooled HCV incidence was 14.8 per 100 person-years (100py; 95% confidence interval (CI): 12.3-17.8, $I^2=96.5%$) and the pooled HIV incidence was 1.7 per 100py (95%CI: 1.2-2.4, $I^2=98.3%$). We found regional variation in both estimates, although data were sparse for three regions (Figure). In studies focused on current PWID (i.e., $\geq 80%$ of participants reported past-year injecting), HCV incidence was higher: 17.2 per 100py (95%CI: 14.3-20.6) vs 10.8 per 100py (95%CI: 7.7-15.1); HIV incidence was comparable. HCV and HIV estimates were similar when stratified by risk-of-bias score.

Conclusion: HCV or HIV incidence among PWID are unavailable or limited in most countries. Available estimates offer an initial insight into the global level of HCV and HIV transmission in this high-risk population.

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*1 estimate spanned multiple regions and was excluded from stratified analyses