NEEDLE SYRINGE PROGRAMMES AND OPIOID SUBSTITUTION THERAPY FOR PREVENTION HCV TRANSMISSION AMONG PEOPLE WHO INJECT DRUGS: COCHRANE SYSTEMATIC REVIEW

Platt L[1], Minozzi S[2], Reed J[3], Vickerman P[4], Hagan H[3], French C[4], Jordan A[3], Degenhardt L[5], Hope V[6], Hutchinson S[7], Maher L[8], Palmateer N[7], Bruneau J[9], Hickman M[4].

[1] London School of Hygiene and Tropical Medicine, London, UK, [2] Department of Epidemiology, Lazio Regional Health Service, Rome, Italy, [3] New York University College of Nursing, New York, NY, USA, [4] School of Social and Community Medicine, University of Bristol, Bristol, UK, [5] National Drug and Alcohol Research Centre, UNSW, Randwick, Australia, [6] Public Health England, London, UK, [7] Health Protection Scotland, Glasgow, UK, [8] Kirby Institute, University of New South Wales, Sydney, Australia, [9] Department of Family and Emergency Medicine, University of Montreal, Montreal, Canada

Background:
Needle Syringe Programmes (NSP) and Opioid Substitution Therapy (OST) are the primary interventions to reduce Hepatitis C (HCV) transmission among people who inject drugs (PWID); but evidence is weak.

Methods:
We searched multiple databases and contacted authors to provide unpublished data. We included studies that that measured exposure to NSP and/or OST against no intervention or a reduced exposure and reported HCV incidence as an outcome.

Main results:
We identified 28 studies (including 7 unpublished) from North America (13), UK (5), Europe (4), Australia (5), and China (1) comprising 1821 HCV incident infections and 8798.7 person years of follow-up. HCV incidence ranged between 0.09 and 42 cases per 100 person-years across the studies. There was no RCT evidence. Only two studies were judged to be moderate overall risk of bias.

OST reduces risk of HCV acquisition by 50% (risk ratio 0.50 95% CI 0.40-0.63, I2 =0%, p=0.859, 12 studies across all regions, 7391 participants). The intervention effect was maintained in sensitivity analyses and consistent across geographical region.

We found weak evidence that high NSP coverage reduces risk of HCV acquisition, (Risk Ratio=0.77 95% 0.38-1.54) with high heterogeneity (I2=78.8%, p<0.001) based on 7 studies from North America and Europe only, 6271 participants. After stratification by region, high NSP coverage in Europe was associated with a 56% reduction in HCV acquisition risk (RR=0.44 95% CI=0.24-0.80) with less heterogeneity (I2 =12.3%, p=0.337).

Combined high coverage of NSP and OST, from 4 studies, 4305 participants, was associated with 71% reduction in the risk of HCV acquisition (Risk Ratio=0.29 95% CI=0.13-0.65).

Conclusion:
OST is associated with a reduction in the risk of HCV acquisition, which is strengthened in studies that assess the combination of OST and NSP. There was greater heterogeneity between studies and weaker evidence for the impact of NSP on HCV acquisition.