

Recent syringe sharing, long injecting history, past incarceration and not living with the family are independently associated with HCV infection among PWID in Greece

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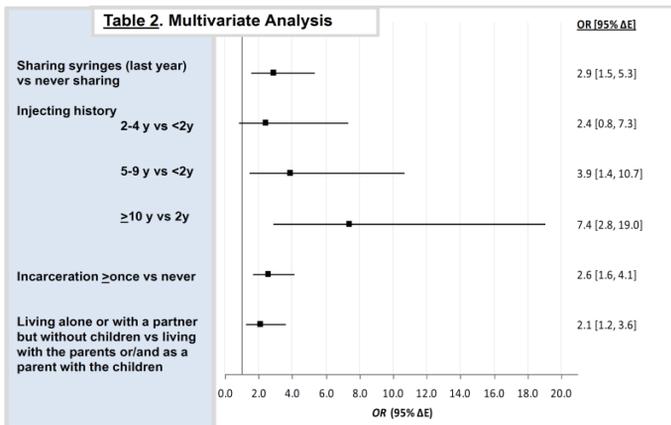
Introduction: The prevalence of HCV infection among people who inject drugs (PWID) is high in Greece. HCV infection may lead to severe chronic liver disease and premature death, and also places a burden on the treatment system. Unsafe injecting is the main route for HCV transmission, but other factors may increase infection risks. This study examines the factors associated with HCV infection among PWID entering opioid substitution treatment(OST) in Greece.

Methods: Anonymous serological and behavioural data were available for 563 people (80% male, 95% Greek) who entered OST in central and southern Greece in 2013 and reported recent injecting drug use. The outcome measure was the presence of HCV antibodies. The correlates comprised sociodemographic (gender, age, living with family and/or partner with children, homelessness, imprisonment etc.), drug use (number of substances used, frequency of use etc.) and high-risk behavioral characteristics (injecting history, sharing syringes and other paraphernalia, etc).

Results: HCV infection was detected in 79.4% of the cases. The majority of the PWID who enter the OST programs in Greece are men with long injecting history, and incarceration in the past. (See [Table 1](#) for Descriptive Data).

| | Total n=580 | | antiHCV(-) n=116, 20.6% | | antiHCV(+) n=447, 79.4% | |
|--|-------------|------|-------------------------|------|-------------------------|------|
| | N | % | N | % | N | % |
| Men | 463 | 79.8 | 98 | 84.5 | 352 | 78.7 |
| Age ≥35 years | 321 | 55.3 | 59 | 50.9 | 251 | 56.2 |
| Residence Conditions | | | | | | |
| Living at urban area during the last 5 years | 444 | 79.6 | 87 | 77.0 | 349 | 81.4 |
| Living alone or with partner without children | 182 | 31.4 | 25 | 21.6 | 152 | 34.0 |
| Homeless for ≥1 day during the last year | 186 | 32.6 | 27 | 23.3 | 152 | 34.7 |
| Socio-economic Status | | | | | | |
| Unemployed, student, other | 356 | 61.6 | 67 | 57.8 | 279 | 62.7 |
| Economically not active | 85 | 14.7 | 17 | 14.7 | 64 | 14.4 |
| Incarceration ≥1 time | 382 | 66.7 | 56 | 49.6 | 312 | 70.3 |
| Data on High Risk Behaviors | | | | | | |
| ≥10 years of injecting | 402 | 70.0 | 60 | 52.6 | 332 | 74.9 |
| 5-9 years of injecting | 97 | 16.9 | 24 | 21.1 | 69 | 15.6 |
| 2-4 years of injecting | 52 | 9.1 | 18 | 15.8 | 32 | 7.2 |
| 61-90 injections during the last month | 38 | 6.7 | 8 | 7.1 | 28 | 6.4 |
| ≥ 91 injections during the last month | 70 | 12.3 | 9 | 8.0 | 58 | 13.2 |
| Syringe sharing during the last year | 137 | 25.4 | 18 | 16.4 | 113 | 27.3 |
| Paraphernalia sharing during the last year | 237 | 43.6 | 43 | 39.8 | 183 | 43.7 |
| No Condom Use last time of Having Sex | 246 | 43.5 | 53 | 47.7 | 185 | 42.1 |
| Tested for HCV and HIV during last year | | | | | | |
| Tested for HCV | 385 | 67.9 | 56 | 49.6 | 315 | 72.1 |
| Tested for HIV | 400 | 69.9 | 63 | 55.3 | 324 | 73.5 |

Multivariate logistic regression analyses adjusting for gender and age showed independent associations between HCV infection and long injecting histories, ever being imprisoned, recent sharing of syringes and not living with parents and/or a partner plus children. ([Table 2](#))



On two separate analyses (results not shown in Tables or Figures) we explored whether the protective role of the factor “living with at least one parent and or a child” in the antiHCV(+) persists after adjusting for factors known in the literature for their strong association to HCV infection in this group (sharing syringes and long history of injection).

In the first model (n=557), in the univariate analysis “not living with parents and/or children” was positively associated with the risk of antiHCV(+) (OR =2.0, 95% CI: 1.2-3.3, p=0.007). Their association persisted (adjusted OR [aOR]=2.1, 95% CI:1.3-3.5, p=0.004) even when “shared a syringe in the last 12 months” entered the model. In the second model (n=524), in the univariate analysis “not living with parents and/or children” was positively associated with the risk of antiHCV(+) (OR =1.9, 95% CI:1.1-3.0, p=0.012). However, their strong association did not persist (aOR=1.7, 95% CI:1.1-2.8, p=0.031) when “having an injecting history of more than five years” entered the model. “Not living with parents and/or children” increased the likelihood of antiHCV(+) with a lower OR compared to that of “having an injecting history of more than five years” (aOR=3.2, 95% ΔE: 1.9-5.5, p<0.001).

Conclusions: The scaling-up of both OST and needle/syringe programs in the community and in prisons may reduce HCV infection vulnerabilities among PWID in Greece. Further investigation of the association of living conditions (with or without the family) and their relation with HCV infection is needed.