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Low HCV-RNA prevalence and low anti HCV incidence in a large national sample of PWID in opioid substitution treatment in Germany: a prospective cohort study

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Conflicts of interest

The **“Epidemiology of hepatitis C virus infection among people receiving opioid substitution treatment (ECHO)”** study was supported by Janssen-Cilag GmbH (unrestricted educational grant).

Janssen-Cilag GmbH had no role in the design of the study and collection, analysis, and interpretation of data

Background

- PWID represent risk group with highest prevalence rates of hepatitis C virus (HCV) infections in high-income countries
- Most new infections occur among PWID
- Modelling studies: OST plus NSP plus DAA effective to reduce prevalence and incidence rates among PWID
- Limited data on HCV epidemiology and DAA treatment data among OST patients in Germany

The ECHO study

- **Study design**
 - Non-interventional, prospective study
 - **PO:** HCV status (Ab, RNA) among OST patients based on routine care data
 - **SO:** HCV incidence, HCV treatment uptake
- **Inclusion criteria**
 - OST patient
- **Nationwide sample**
 - 2466 patients from 63 OST units
- **Study duration**
 - Patient: 12 m; Study: 27 m

Patient characteristics, OST

Patient characteristics (N = 2466)

Gender (male) (n = 2465)	72.8 %
Age in years (n = 2465)	42.0 (SD 9.0), range: 18-77

Opioid substitution treatment (OST)

First time in OST (n = 2353)	24.3 %
Average duration of current OST (n = 2413)	6.4 years (SD 5.2), range: 0-27
D-/L- Methadone (liquid or tablets)	76.1%
Buprenorphine	23.0%

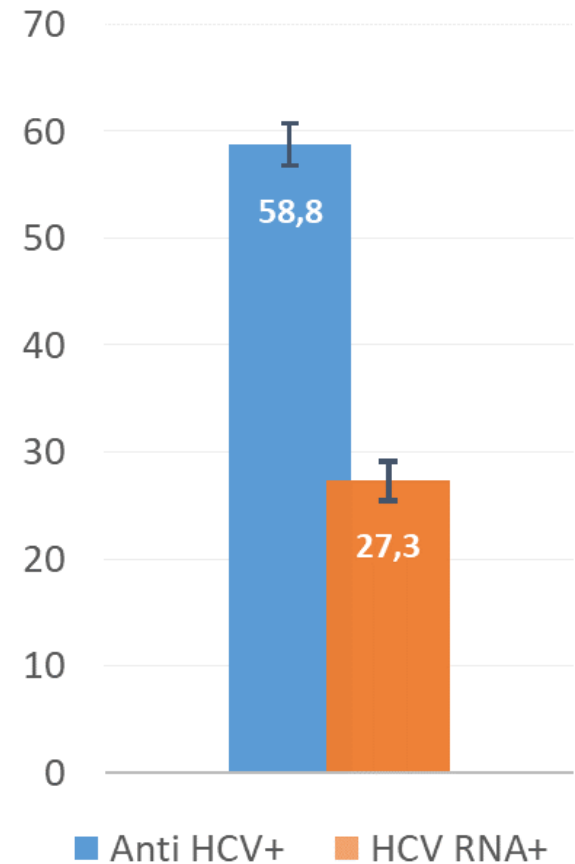
HCV antibody and RNA prevalence rates

Anti-HCV prevalence (N = 2386)	
Anti-HCV ⁻ (n = 983)	41.2%
Anti-HCV ⁺ (n = 1403)	58.8% (95% CI: 56.8% - 60.8%)

HCV RNA prevalence (N = 2260)	
HCV-RNA ⁻ (n = 1643)	72.7%
HCV-RNA ⁺ (n = 617)	27.3% (95% CI: 25.5% - 29.2%)



approx. 26,000 OST patients HCV-RNA⁺



Impact of HCV treatment and uptake rate for 2016

- Major impact of previous HCV treatment on RNA prevalence
 - **Patients with antiviral treatment** before baseline (n = 496): **25.2% RNA⁺**
(61.9% RNA-negatives, 12.9% missing)
 - **Patients without antiviral treatment** before baseline (n = 875): **53.8% RNA⁺**
(39.2% RNA-negatives, 7.0% missing)

- HCV treatment uptake in 2016
 - 394 RNA-infected patients HCV RNA⁺ at the beginning of the year
 - 40 patients initiated antiviral HCV treatment in 2016
 - **Annual treatment uptake rate for 2016 of 10.15%**

Antiviral HCV treatment outcomes

Treatment outcomes (N=134)	
Sustained virological response (SVR)	88.6%
Early virological response (EVR) (no further data available)	6.1%
Relapse	3.8%
Non response	0.8%
Premature termination of treatment	0.8%

HCV incidence

- Of 983 anti-HCV negative patients, 451 re-tested between baseline and follow up
- Mean time between last negative and first positive HCV-test was 27.2 months (SD 26.4, range 5.8 - 102.8 months)
- HCV-seroconversions among 22 OST patients (4.9%)
- Incidence rate
 - **2.5 cases per 100 person-years** (dropouts excluded)
 - **2.1 cases per 100 person-years** (dropouts included)
- Higher rates of HCV seroconversion among patients with
 - High symptom load in OTI-HSS & BSI (somatic and mental health)
 - Substantial problems with illicit drug use
 - Substantial social problems

Discussion

- Our sample is characterized by high long-term retention in OST, high treatment uptake rates, low HCV RNA prevalence and anti-HCV incidence
- Combination of OST and antiviral treatment is effective to reduce RNA prevalence and in preventing new infections in this high-risk population
- Scaling up OST, HCV testing and HCV treatment among OST patients is an important public health strategy to reduce HCV infection and its consequences among PWID

Many thanks for your attention!

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