Micro-elimination of hepatitis C virus among inmates in Israeli prisons

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Background

The Israeli Prison Service (IPS) has implemented a hepatitis C virus (HCV) eliminating program among inmates since August 2020, as part of the Israeli National Program for Hepatitis C Elimination. Prison population includes sub-groups carrying increased HCV risk, which may lead to high infection rate compared to the general population.

Purpose

- Estimate, for the first time, the prevalence of HCV among inmates in Israeli prisons.
- Identify demographic and behavioral characteristics of infected inmates.
- Assess the outcomes of the elimination program.

Methods

Cross-sectional study comprised of high-risk inmates: born in the Former Soviet Union (FSU) or involved in drug felonies/use. Inmates who were not classified as high-risk and requested to be tested were included as well.

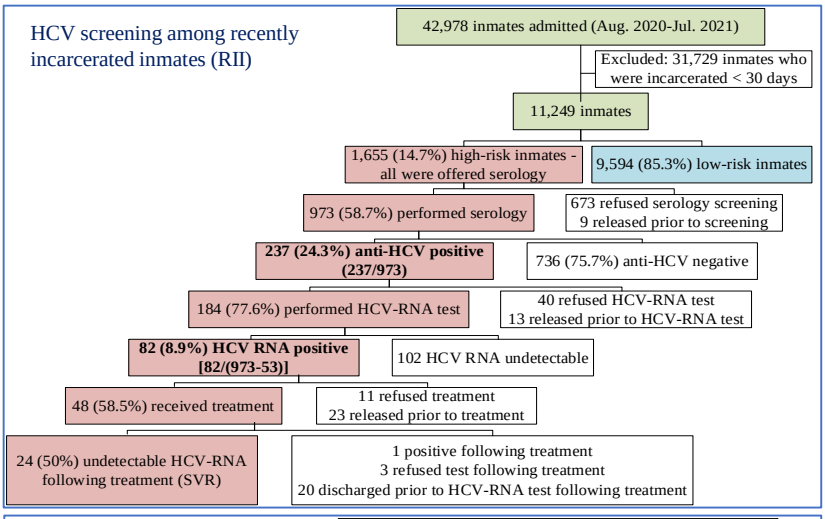
Results

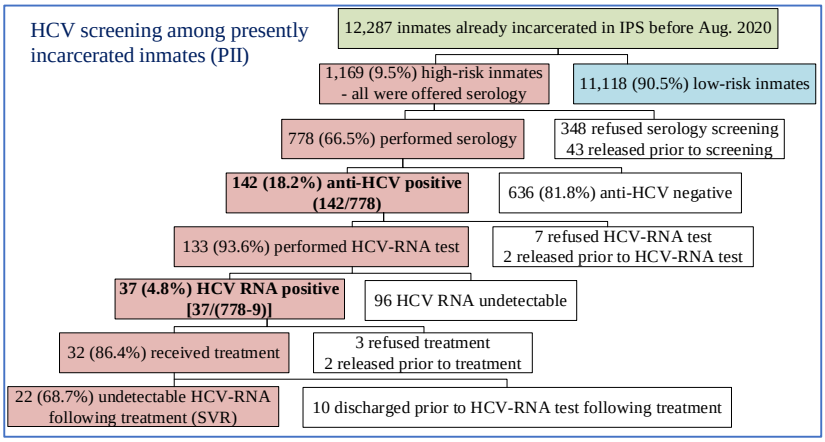
High-risk inmates accounted for 9.5-14.7% of all Israeli prisoners. Among them, 58.7-66.5% were tested (1,751/2,824): 973 who were recently incarcerated inmates (RII), imprisoned between August 2020 and July 2021, and 778 presently incarcerated inmates (PII) who have already been detained before August 2020.

HCV seroprevalence was 24.3% and 18.2% in RII and PII, respectively. HCV-RNA was detected in 8.9% and 4.8% of RII and PII, respectively. Of 119 positive HCV-RNA inmates, 80 (67.2%) completed DAA treatment. Sustained virologic response (SVR) was confirmed in 46 of 47 (97.8%) tested.

Inmates who were older, non-married, had a higher number of imprisonments and additional risk criteria (drug users, FSU origin, co-infected with HIV/HBV) predicted positive serology.

Inmates who originated from FSU together with IVDU had the highest risk for positive HCV serology (58.3-76.0%) compared to other main risk criteria combination.





Conclusions

- HCV prevalence among inmates with high-risk for HCV infection was 4.8-8.9%, measured by HCV-RNA.
- It is estimated that 0.4-3.1% of the entire prison population is infected with HCV while the prevalence in the general population in Israel is estimated at 0.7%.
- Risk factors associated with positive HCV serology included: older age, being single and previous incarceration alongside with risk criteria (drug users, FSU origin, infected with HIV/HBV). Inmates originating from the FSU who are also IVDU were most likely to have positive serology compared to other main risk criteria combination.
- Following screening and treatment process, IPS eliminating program achieved HCV burden decrease in prisons.