Hepatitis C in prisons

A prevalence study

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Summary

Hepatitis C is the name for an infection of the liver by the hepatitis C virus (HCV). In the Netherlands 15.000-60.000 persons are estimated being carrier of the virus. HCV is transmitted by contact with infected blood, for instance by blood transfusions, but also by intravenous drug use or tattooing or piercing with non-sterile instruments. The prevalence of HCV infected persons in prisons is expected to be higher than in the general population as there are relatively more (ex-) drug users among prisoners in the Netherlands as well as persons with tattoos or piercings. Exact figures about the prevalence of hepatitis C in prisons in the Netherlands do not exist yet.
The aim of this study is to get insights into the number of prisoners infected with hepatitis C and the consequences for the policy of National Agency of Correctional Institutions (NACI). The NACI has to take care of the costs of treatment of hepatitis C as a prisoner is not covered by the regular health insurance system. By getting insight into the magnitude of the problem and the consequences for the screening of prisoners, treatment and care of infected prisoners and the costs involved, the NACI can develop a specific policy. In the meantime the NACI initiated a few pilot projects in some prisons where a policy aimed at screening and prevention of hepatitis C is developed. This policy is meant to develop guidelines, procedures and protocols for screening and treatment of hepatitis C, and to cooperate with the Community Health Departments and hospitals.

The following research questions are addressed:

1a. What is the prevalence of chronic hepatitis C over one year among prisoners who were screened and tested for the hepatitis C virus? What is the number of prisoners infected with the hepatitis C virus within the prisons included in the study and based on the year prevalence? (chapter 3, 3.4)
1b. What are the demographic and prison characteristics, and the risk factors of prisoners infected with hepatitis C? (chapter 3, 3.6)
2. How many prisoners are eventually referred to a gastroenterologist and what are their characteristics? (chapter 3, 3.7)
3a. How many prisoners are treated in detention and what are their characteristics? (chapter 3, 3.8)
3b. What is the proportion of prisoners who finish their treatment prematurely and after how many weeks on average? (chapter 3, 3.9)

In addition to answering these research questions, we will look at possible differences in results and outcomes of screening prisoners for hepatitis C between prisons with an active screening policy for hepatitis C and prisons with a regular policy . (chapter 3, 3.5)

The NACI selected eleven prisons out of 56 for this research. This selection concerned 10 prisons with major active health departments among which one prison with female prisoners. These eleven prisons were the research population for this study. The medical departments of the selected prisons were interviewed to get details about the policy regarding hepatitis C followed within each prison. From these interviews prisons were distinguished in a category with a regular policy (n=7) and a category prisons with an active screening policy (n=4) towards hepatitis C. All detainees who stayed in one the eleven selected prisons between June 1, 2008 en June 1, 2009 were allowed for this research. In total the research population consisted of 12,535 detainees. From this population a random sample of 3,062 detainees was drawn. Beforehand, it was expected that detainees who stayed at a prison with an active screening policy would have a bigger chance to be tested for hepatitis C, to be diagnosed and treated. Therefore, the random sample of 3,062 detainees was extended with 400 more detainees randomly

selected from those who at least stayed once in a prison with an active policy towards hepatitis C. Consequently, the total sample consisted of 3,462 detainees. Of 3,360 persons data were available. In all prisons medical data are recorded in an electronic medical file with the programme MicroHis. All medical data of the detainees were delivered in pdf-files made from the complete medical files. These pdf-files were screened with keywords to reveal the relevant information for this study (the presence of an infection with hepatise C and the associated risk factors) en recorded with a form by 4 medically trained research assistants supervised by a researcher. (chapter 2)

The sample consisted of 3,103 men (92%) and 257 women (8%), aged 35 years on average for both gender. Regarding age the sample represented well the total group of detainees. The sample consisted of relatively more native Dutch people and of fewer migrants. The total group of detainees in the sample 1,610 (47%) persons stayed at least once in a prison with an active screening policy for hepatitis C. (chapter 3, 3.2)

Because of the limited reliability of the medical files due to incomplete registration of data it was impossible to provide an exact estimate of the year prevalence of hepatitis C. Based on the methods used in this research the real prevalence of hepatitis C infection will be between 2.0% en 10.7%. Using these figures the total number of detainees with hepatitis C in the Netherlands can be estimated to be between 237 and 1,272 in case of a same distribution of the subgroups at risk and the risk factors as they are distributed in the random sample. (chapter 3, 3.4)

Information about risk factors to get infected with hepatitis C as a result of intravenous drug use and tattooing were collected from the medical files. A majority of files lack information about most of these risk factors. Prisons with an active policy for hepatitis C registered significant surgery in the past and tested more often for sexual transmitted infections. These prisons performed significantly more often an ELISA-test compared to prisons with a regular policy. (30% versus 19% of all detainees). In the group with hepatitis C there are relatively more women than in the group of detainees without hepatitis C. Detainees with a chronic hepatitis C are on average 7 years older. The group detainees with hepatitis C consist of significantly less non-western migrants, and of significantly more migrants from western countries. Among the detainees with hepatitis C intravenous drug use is significantly more prevalent than among detainees without chronic hepatitis C. (chapter 3, 3.6)

From the results a few conclusions can be drawn:

1. Preliminarily the NACI assumed that by studying the medical files it would have been possible to get enough information about the presence of hepatitis C and its risk factors. The completeness of the medical files is still very weak. Information about the risk factors for instance is often unavailable. This makes interpretation of the results difficult. The figures presented in the report have to be interpreted cautiously. Although the associations with the risk factors are all going in the expected direction.
2. Because of the limited reliability of the medical files it was only possible the give a rough estimate of the prevalence of hepatitis C in detainees. The prevalence will be somewhere between 2.0% and 10.7%.
3. Prisons following a more active screening and prevention policy for hepatitis C are registering significantly more often information about risk factors and are screening more often with the ELISA-test for hepatitis C. The group of detainees screened for hepatitis C in prisons with an active policy has a lower prevalence of hepatitis C. These results ask for a specific study into the yield of an active policy in screening for hepatitis C in prisons compared to the regular screening policy.