Infectious Diseases Among Imprisoned - Risk Factors and Outcomes (Review)

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Abstract:

Of the estimated 10.2 million people incarcerated worldwide on any given day in 2014, it is estimated that 3.8% have HIV (389,000 living with HIV), 15.1% have HCV (1,546,500), 4.8% have chronic HBV (491,500), and 2.8% have active tuberculosis (286,000). The prevalence of HIV, hepatitis B virus, hepatitis C virus, and tuberculosis are higher in prisons than in the general population in most countries worldwide, mainly because of the criminalization of drug use and the detention of people who use drugs. Another important risk factor is sexual behavior, where MSM represent major risk for transmission of infectious diseases. Overcrowding and poor infrastructure are responsible for parasitic infections. Improving conditions in prisons, finding alternatives to detention and mostly available HAART and preventive programs for HIV, HCV and tuberculosis, could be the options how to lower the numbers of infected people.

Conflict of interest:

The authors whose names are listed in the title of the article certify that they have NO affiliations with or involvement in any organization or entity with any financial interest (such as honoraria; educational grants; participation in speakers’ bureaus; membership, employment, consultancies, or other equity interest), or non-financial interest (such as personal or professional relationships, affiliations, knowledge or beliefs) in the subject matter or materials discussed in this manuscript.

Introduction

The negative and mutually reinforcing nature of incarceration, substance use disorders, and blood-born viruses such as HIV, hepatitis C virus, and tuberculosis is problematic and results in a concentration and interaction between these health and social conditions. Of the estimated 10.2 million people incarcerated worldwide on any given day in 2014, it is estimated that 3.8% have HIV (389,000 living with HIV), 15.1% have HCV (1,546,500), 4.8% have chronic HBV (491,500), and 2.8% have active tuberculosis (286,000). The few studies on incidence suggest that intra-prison transmission is generally low, except for large-scale outbreaks. However, there are several factors increasing risk of transmission of these diseases either during detaining, but after discharge as well. (1-4)

Risk factors for infectious diseases among imprisoned:

Commonest risk factor for many infectious diseases is sexual and addictive behavior. MSM are leaders in risky sexual behavior especially in long-term imprisonment; sexual behavior is linked to HIV, HBV and HCV as well. Another major risk factor is intravenous drug use. Despite strict conditions in prisons, it’s more common than expected. Common drugs such as cocaine, heroin, marihuana, are rarely imported due to screening, but prisoners can produce their own “substances” similar to classic drugs. Contaminated syringes play the major role in the transmission of hepatitis B, C and HIV.
Another risk factor for infectious diseases is overcrowding. However, the spectrum of IDs linked to overcrowded prisons is different from those transmitted sexually or by blood. Typical IDs related to overcrowding are respiratory tracts infections; among them also tuberculosis and influenza. Despite of possibility of TB vaccination for neonates in some countries, in prisons, this vaccination is still not implemented; neither is flu vaccination. Unfortunately, prevention of TB is closely linked to the “deadly synergy” of both, TB and HIV, but other sexually transmitted diseases as well. Another risk factor for TB transmission is the fact that only 10% of imprisoned are receiving antiretroviral therapy. Absence of ARV therapy is a major risk factor for progressing to AIDS and developing opportunistic infections, such as TB, HBV, herpes zoster and others. Apart from TB, other infectious diseases linked to conditions in prison are leptospirosis, scabies and pediculosis. Ecto-parasites are sometimes directly linked to sexual behavior, too, but mostly to poor hygiene and infrastructure in some regions. (5-10)

Preventive Programs

The prevalence of HIV, hepatitis B virus, hepatitis C virus, and tuberculosis are higher in prisons than in the general population in most countries worldwide, mainly because of the criminalization of drug use and the detention of people who use drugs. Prisons are risk environments for these infections to be further concentrated, amplified, and then transmitted to the general community after prisoners are released. In the absence of alternatives to incarceration, prisons and detention facilities, there is the possibility to reduce these risks by promoting primary and secondary prevention strategies for these infections to improve prisoners’ health and also to reduce risk throughout incarceration and on release. (1)

However, large gaps exist in the implementation of these strategies across all regions. Several studies showed that anti-HIV and anti-TB preventive programs are only successful, when combined together. Collaboration between the criminal justice and public health systems will be required for successful implementation of these strategies. (2)

The prison setting therefore presents not only challenges, but also opportunities, for the prevention and treatment of HIV, viral hepatitis, and tuberculosis. At the same time, even when WHO guidelines recommend treatment for all patients, irrespective of CD4 count, coverage with antiretroviral therapy in some regions is less than 10% and is compounded both by suboptimal screening for diseases and low coverage of evidence based HIV prevention strategies (e.g., opioid agonist therapies with methadone or buprenorphine, or needle and syringe programs. (3) Effective treatment of opioid use disorders with opioid agonist therapies prevents blood-born infections via reductions in injection in prison and after release. (4) But the most effective way of controlling these infections in prisoners and the broader community is to reduce the incarceration of people who inject drugs.

Table 1 Commonest infections in prisoners

<table>
<thead>
<tr>
<th>Commonest Infectious Diseases in Imprisoned:</th>
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<tbody>
<tr>
<td>1. Related to substance/drug use and misuse</td>
</tr>
<tr>
<td>2. Related to sexual behavior</td>
</tr>
<tr>
<td>HIV, HCV – MSM, syphilis, gonorrhea, other STDs</td>
</tr>
<tr>
<td>3. Related to overcrowding and poor infrastructure</td>
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</tbody>
</table>
RTI: TB and, influenza, Pneumococcus
SSTI: Ecto-parasitosis, Scabies, Pediculosis, etc.
4. Related to poor food and water supply
   Hepatitis A, leptospirosis

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