

Prisons: an important link in the elimination of Hepatitis B

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Current estimates give figures of approximately 240 million people with chronic hepatitis B virus infection (HBV). The distribution of the disease is very heterogeneous, with a more marked prevalence (high prevalence = $\geq 8\%$ of the population) in countries in Africa and South East Asia¹. HBV infection is responsible for most cases of cirrhosis and liver cancer worldwide, which have a considerable impact on healthcare resources. In Spain, despite the prevention campaigns implemented through health education and screening of pregnant women and high risk groups, and the establishment of universal vaccination in the nineties², current prevalence is estimated current prevalence is estimated to be at around 0.2-1.7%, making Spain a country with low endemicity ($< 2\%$ of the population with infection)³. This prevalence has increased in recent years, probably as a result of migratory movements of persons who have not been vaccinated against hepatitis B or who come from countries with high levels of endemicity. Improved notification of cases may also be another factor⁴. A recent study on adults who went to the Emergency Department of a university hospital in Catalonia with symptoms compatible with acute hepatitis showed that HBV infection was the main aetiological cause⁵. One third of cases were immigrants from countries with no vaccination programmes, and sexual transmission was found to be the main associated risk factor.

The fact that chronic hepatitis B is an asymptomatic infection up to the advanced stages of liver disease, implies that many persons are unaware of being infected.

There are also cases of patients who know that they are infected and do not receive adequate monitoring. The WHO estimates that less than 5% of the individuals infected with HBV in low-income countries are aware of the diagnosis⁶. Therefore, screening and linkage to care programs for patients with hepatitis B, especially in certain high risk groups, would help to prevent the disease from progressing, which in turn would have a highly positive impact on public health. The possibility of preventing further progression of liver disease and the resulting complications led to the WHO approving the 2016 Global Health Sector Strategy to eliminate hepatitis B and C by 2030⁷. The program includes a wide range of strategies, many of which are focused on prisons.

As Vergara M⁸, comments in her study, prisons represent an opportunity for screening, treatment and monitoring of a number of pathologies, and for discovering more about their natural history, since they include groups where the prevalence of diseases associated with certain risk factors is greater than in the community. This scenario is well known in the case of hepatitis C, where several strategies of micro-elimination in prisons have been put into effect in a number of Spanish prisons with excellent results and highly valued experience⁹. There is a large amount of data to support the benefits of such programs in terms of diagnosis of new cases and treatment adherence¹⁰. These strategies have allowed the detection, treatment and linkage to care of many patients with hepatitis C, with the positive impact that this implies to eliminate infection.

The same thing has not happened with hepatitis B, and the bibliographical references on screening programs in prisons are scarce and outdated¹¹⁻¹³, although it is a well known fact that the overall prevalence of hepatitis B is greater amongst inmates than in the community¹⁴, and that it shares the same routes of transmission and risk factors such as hepatitis C. The institutions within the remit of the Spanish prison administrations of Catalonia and other regions in Spain implement universal hepatitis B screening and similar interventions for other infections, which are voluntary and applied when a person enters prison to serve their sentence. The administration of hepatitis B vaccines has been systematically implemented in Spanish prisons since the late 80s. Therefore, access to detection and vaccination is guaranteed. However, the monitoring and control of people with HBV infection need to be improved, as well as coordination inside and outside the prison, to guarantee a healthcare continuum after release. It has been shown in prison inmates and other high risk groups that a combination of preventive (vaccination) and treatment strategies is more effective¹⁵. Therefore, recommendations to optimise control of this infection⁸ will be welcomed.

Prisons should be seen from a public health perspective as opportunities to screen and monitor certain diseases, especially infectious ones, since they bring together persons who more frequently present risk factors for such pathologies, as shown in recent years with hepatitis C. In prisons, access to the health system can be offered to a large group who usually have little or no contact with it, and include opportunities to promote prevention, screening and treatment adherence strategies. As stated in the article "Guidelines for better management of hepatitis B in Spain"¹⁶ (mentioned by Vergara M in her review published in this edition of our journal⁸), prisons play a vital role in eliminating hepatitis B.

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REFERENCES

1. McMahon BJ. Chronic hepatitis B virus infection. *Med Clin North Am.* 2014;98(1):39-54.
2. Arístegui Fernández J, Díez-Domingo J, Marés Bermúdez J, Martín Torres F. Vacunación frente a la hepatitis B. Impacto de los programas de vacunación tras 20 años de su utilización en España. ¿es tiempo de cambios? *Enferm Infecc Microbiol Clin.* 2015;33(2):113-8.
3. Carmona R, Cano R AP. Resultados de la Vigilancia Epidemiológica de las enfermedades transmisibles. Informe anual. Años 2017-2018. [Internet]. Madrid: Centro Nacional de Epidemiología. Instituto de Salud Carlos III; 2020. Disponible en: https://www.isciii.es/QueHacemos/Servicios/VigilanciaSaludPublicaRENAVE/EnfermedadesTransmisibles/Documents/INFORMES/INFORMES%20RENAVE/RENAVE_Informe_anual__2017-2018.pdf
4. Hernando Sebastián MV, Soler Crespo P, Garrido Estepa M, Cano Portero R, Llácer A. Vigilancia epidemiológica de la hepatitis B en España. Años 1997 a 2008. *Boletín Epidemiológico Semanal.* 2010;18:169-80.
5. Llaneras J, Riveiro-Barciela M, Rando-Segura A, Marcos-Fosch C, Roade L, Velázquez F, et al. Etiologies and Features of Acute Viral Hepatitis in Spain. *Clin Gastroenterol Hepatol.* 2021;19 (5):1030-7.
6. World Health Organization. Guidelines on Hepatitis B and C Testing. [Internet]. WHO; 2017. p. 1-170. Disponible en: <http://apps.who.int/iris/bitstream/10665/254621/1/9789241549981-eng.pdf?ua=1> <http://www.ncbi.nlm.nih.gov/pubmed/28742301> <http://www.ncbi.nlm.nih.gov/pubmed/28742301>
7. World Health Organization. Combating hepatitis B and C to reach elimination by 2030. [Internet]. WHO; 2016. Disponible en: http://apps.who.int/iris/bitstream/10665/206453/1/WHO_HIV_2016.04_eng.pdf?ua=1
8. Vergara M. Diagnóstico y tratamiento de la hepatitis B. ¿Qué pueden aportar las instituciones penitenciarias? *Rev Esp Sanid Penit.* 2021;23(3):123-132.
9. Akiyama MJ, Kronfli N, Cabezas J, Sheehan Y, Thurairajah PH, Lines R, et al. Hepatitis C elimination among people incarcerated in prisons: challenges and recommendations for action within a health systems framework. *Lancet Gastroenterol Hepatol.* 2021;6(5):391-400.
10. Cuadrado A, Llerena S, Cobo C, Pallás JR, Mateo M, Cabezas J, et al. Microenvironment Eradication of Hepatitis C: A Novel Treatment Paradigm. *Am J Gastroenterol.* 2018;113(11):1639-48.
11. Bayas JM, Bruguera M, Martín V, Mayor A, De la Fuente ML, Laliga A, et al. Hepatitis B

- and hepatitis delta in young inmates. *Med Clin*. 1990;94(5):164-8.
12. Saiz de la Hoya P, Marco A, García-Guerrero J, Rivera A; Prevalhep Study Group. Hepatitis C and B prevalence in Spanish prisons. *Eur J Clin Microbiol Infect Dis*. 2011;30(7):857-62.
 13. Marco A, Solé C, Gallego C, Planella R, Leonardo E, Sastre A, et al. Prevalencia de AGhBs positivo en presos de Cataluña y perfil diferencial según el lugar de origen. *Rev Esp Sanid Penit*. 2014;16(Supl):98.
 14. Falla AM, Hofstraat SHI, Duffell E, Hahné SJM, Tivoschi L, Veldhuijzen IK. Hepatitis B/C in the countries of the EU/EEA: A systematic review of the prevalence among at-risk groups. *BMC Infect Dis*. 2018;18(1):79.
 15. Chahal HS, Peters MG, Harris AM, McCabe D, Volberding P, Kahn JG. Cost-effectiveness of Hepatitis B Virus Infection Screening and Treatment or Vaccination in 6 High-risk Populations in the United States. *Open Forum Infect Dis*. 2019;6(1):ofy353.
 16. Esteban R, Cañada JL, Sureda M, Ripoll MA, Saiz de la Hoya P. Orientaciones para un mejor manejo de la Hepatitis B en España. Recomendaciones del Grupo de Estudio de la Hepatitis B (GEsHEB). *Rev Esp Sanid Penit*. 2009;11(3): 87-95.