Editorial

RESP

Telemedicine and specialised consultations in prisons. The example of HCV chronic hepatitis

Fernández Rodríguez C[1], Jiménez Galán G[2]

[1]Servicio de Aparato Digestivo. Hospital Universitario Fundación Alcorcón. Madrid. España.
[2]Servicio Médico del Centro Penitenciario. Madrid IV. Navalcarnero. Madrid. España.

There are a number of problems in specialised medical care for the prison population, which were highlighted in the prison healthcare quality report (CAPRI, 2002). These included excessive delays in specialised consultations, defective communication between specialists in referral hospitals and prison doctor, missed appointments and difficulties with logistics, security and privacy for inmates when being transferred to hospital[1].

Telemedicine offers a unique opportunity to remove the difficulties inherent in hospital use and geographical barriers, it improves the chances for equal access to specialised healthcare, guarantees treatment continuity between medical environments, improves organisational problem (such as appointment times), avoids the need for the security measures required in transfers and ensures inmates' privacy. It also improves communications and links between hospitals (specialised healthcare) and prisons (primary healthcare), facilitates ongoing training and its use in geographical areas far away from specialists has shown it to be a cost effective option[2].

One of the most prevalent health problems in prisons is that of chronic hepatitis from the hepatitis C virus (HCV)[3-5], although prevalence of the disease has decreased considerably in recent years. Even so, the prison population is still a major reservoir of infection and a key population in the fight to eliminate it[6]. Indeed, the strategic plan of the Ministry of Health, Consumer Affairs and Social Welfare to control hepatitis C considers intervention in prisons to be a priority issue in this regard[7].

The strategy of micro-elimination was recently proposed as a pragmatic approach to enable faster and more efficient treatment and prevention of infections and re-infections[8]. Strategic micro-elimination populations would be the prison population, people who inject drugs (IDUs), the immigrant population from areas with a high prevalence of HCV (by convention, equal to or more than 3%) and men who have sex with men (MSM). The last of these groups has greater prevalence if they have a prison background[9].

The appearance and approval of modern direct acting antiviral (DAA) therapies fulfils the criteria of disruptive technology proposed by professor Christensen[10], and it has been demonstrated that they are cost effective in Spain[11]. Such a scenario opens up opportunities to eliminate HCV from prisons and makes the WHO's health objective of getting rid of the infection by 2030 an achievable one[12].

In our geographical area we have used telemedicine for treating hepatitis C in the prison population. There are other experiences along the same lines. An example is the teleconsultation program to monitor 66 patients already treated with DAA in Dueso prison, in northern Spain[13], which has had very good results, along with other experiences where the same integration and links with specialised care of the prison population was achieved, or where it was used as a tool to complement monitoring[13-15].

A randomisation of telemedicine should evidently have been carried out to compare it with habitual practice and to gain a notion of the intrinsic value of telemedicine and its contribution towards eliminating hepatitis C, along with a comparison of the results in different prisons (open randomised study). This would be difficult at the very least and at this late stage is frankly impossible. What we can offer however is the elimination data from a prison (Madrid IV) that uses telemedicine and that, as far as we know, is eliminating HCV at a faster rate than that in the vast majority of similar prisons in Spain. The conclusion could well be drawn that there is a link between the use of this tool and elimination of the disease, and even if this does not mean that there is

a direct "cause-effect" relationship, we cannot offer another more persuasive argument about its benefits. On 30 December, according to a verbal communiqué from the General Sub-directorate of Prisons, the viremia from HCV was 1.8% in prisons of the Madrid metropolitan district and 3% in the rest of Spain, which represents 142 and 1,800 patients respectively. The prevalence in Madrid IV prison was zero on that date, despite the relatively high number of entrances and exits of inmates and ex-inmates, which means that these figures may fluctuate.

Full medical care can be given to inmates with hepatitis C without resorting to telemedicine, but in prisons that depend on the State Prison Administration, this would involve specialised services having to go to prisons or inmates being transferred to hospitals for treatment. That is why we feel that this tool, which provides the prescriptions and recommendations for monitoring liver carcinoma, when necessary, complement the classical range of care options (screening, diagnosis, evaluation, treatment, prevention of re-infection and oversight, if necessary), without the inconvenient factors involved in referral.

It is true that there are limitations in telemedicine, a hospital consultant cannot carry out a physical examination, for example, but it does have other major advantages, as we commented above. In our experience and from the perspective of perceived quality, an anonymous satisfaction survey on telemedicine carried out with inmates and medical personnel showed an overall evaluation that was good or very good for 100% of the medical staff and two thirds for inmates[16], but not for one third of them, although the reasons for such dissatisfaction and its relation with the use of the technology, and not as a result of other causes, could not be established because no questions of this type were asked in the survey. Telemedicine also offers other benefits, such as minimising costs of referrals to hospitals, although this is a strategy that has led to, and continues to create, some degree resistance, as is the case with most changes.

It should be highlighted that the rate of sustained virologic sustained response was similar in our experience to other studies of real clinical practice in Spain[17-19], with no differences between HCV-HIV (human immunodeficiency virus) co-infected and HCV mono-infected patients. It is a fact that the high turnover of this population, with frequent releases, increases the ratio of losses during monitoring, which is a similar situation to the one mentioned in recent experiences in Australia[20] and in other Spanish studies[21]. It is therefore necessary to reduce these losses and make this a strategic objective for the future.

By way of summary, consultation via telemedicine is an effective instrument for specialised consultation and, where HCV infection is concerned, it could effectively contribute towards eliminating it amongst inmates, given that referral to specialists in this environment is a difficult process.

Conflicts of interest

The authors declare that they have no financial relationship with organisations or companies that might influence their opinion.

CORRESPONDENCE

Conrado Fernández Rodríguez
Unidad de Aparato Digestivo.
Hospital Universitario Fundación Alcorcón.
Av Budapest-1. Madrid 28922
E-mail: cfernandez@fhalcorcon.es

REFERENCES

1. Grupo de trabajo CAPRI. Informe CAPRI sobre la calidad de la asistencia sanitaria en centros penitenciarios españoles. Rev Esp Sanid Penit. 2003;5:38-48.
2. Smith AC, Bensink M, Armfield N, Stillman J, Caffery L. Telemedicine and rural health care applications. J Postgrad Med. 2005;51:286-93.
3. Ministerio del Interior. Secretaria general de instiutuciones penitenciarias. Informe 2016 (Consultado 25 de Mayo de 2019). http://www.institucionpenitenciaria.es/web/export/sites/default/datos/descargables/publicaciones/Informe_General_2016_acc.pdf.
4. Marco A, Guerrero RA, Turu E, Gallego C, Teixidó N, Sastre A, Caylà JA y GRUMIP. ¿Es posible eliminar la hepatitis C en las prisiones de Cataluña en el 2021?. Rev Esp Sanid Penit. 2019;21:41-5.
5. 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;30:857-62.
6. Stöver H, Meroueh F, Marco A, Keppler K, Saíz de la Hoya P, Littlewood R, et al. Offering HCV treatment to prisoners is an important opportunity: key principles based on policy and practice assessment in Europe. [Internet]. En: BMC Public Health. Springer Nature. 8 Jan 2019. Disponible en: https://doi.org/10.1186/s12889-018-6357-x

7. SSecretaria general de sanidad y consumo. Plan estratégico para el abordaje de la hepatitis C. Ministerio de sanidad, asuntos sociales e igualdad. (Consultado 25 de Mayo de 2019). Disponible en: https://www.mscbs.gob.es/ciudadanos/enfLesiones/enfTransmisibles/hepatitisC/PlanEstrategicoHEPATITISC/docs/plan_estrategico_hepatitis_C.pdf.
8. Lazarus JV, Wiktor S, Colombo M, Thurzs M, EASL International Liver Foundation. Micro-elimination. A path to global elimination of hepatitis C. J Hepatol. 2017;67:665-6.
9. Observatorio Europeo de las Drogas y las Toxicomanías. Informe Europeo sobre Drogas. Tendencias y novedades. [Internet]. EMCDDA; 2018. Disponible en: http://www.emcdda.europa.eu/system/files/publications/8585/20181816_TDAT18001ESN_PDF.pdf
10. Christensen CM, Rosenbloom RS. Explaining the attacker's advantage: Technological paradigms, organizational dynamics, and the value network. Research Policy. 1995;24:233-57.
11. Fernandez Rodriguez CM. Disruptive therapeutic innovation and the opportunity to eliminate a chronic disease. The issue of chronic hepatitis C in Spain. Rev Esp Enferm Dig. 2017;109:807-8.
12. World Health Organization. Combating hepatitis B and C to reach elimination by 2030 Advocacy brief. [Internet]. WHO; 2016. [fecha de acceso 30 Dic 2018]. Disponible en: https://www.who.int/hepatitis/publications/hep-elimination-by-2030-brief/en/
13. 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;113:1639-48.
14. Morey S, Hamoodi A, Jones D, Young T, Thompson C, Dhuny J, et al. Increased diagnosis and treatment of hepatitis C in prison by universal offer of testing and use of telemedicine. J Viral Hepat. 2019;26:101-8.
15. Pontali E, Fiore V, Ialungo AM, Ranieri R, Mollaretti O, Barbarini G, et al. Treatment with direct-acting antivirals in a multicenter cohort of HCV-infected inmates in Italy Int. J Drug Policy. 2018;59:50-3.
16. Fernandez Rodriguez C, Jiménez Galán G, Alia Alia C, Vegue González M, García Berriguete RM, Fernández González F, et al. The contribution of telemedicine to the Hepatitis C elimination in a Correctional Facility. Rev Esp Enf Dig. 2019 (en prensa).
17. Hernández-Conde M, Fernández I, Perelló C, Gallego A, Bonacci M, Pascasio JM, el al. Effectiveness and safety of elbasvir/grazoprevir therapy in patients with chronic HCV infection: Results from the Spanish HEPA-C real-world cohort. J Viral Hepat. 2019;26:55-64.
18. Perelló C, Carrión JA, Ruiz-Antorán B, Crespo J, Turnes J, Llaneras J, et al. Spanish Collaborative Group for the Study of the Use of Hepatitis C Direct-Acting Drugs. Effectiveness and safety of ombitasvir, paritaprevir, ritonavir ± dasabuvir ± ribavirin: An early access programme for Spanish patients with genotype 1/4 chronic hepatitis C virus infection. J Viral Hepat. 2017;24:226-37.
19. Alonso S, Riveiro-Barciela M, Fernandez I, Rincón D, Real Y, Llerena S, et al. Effectiveness and safety of sofosbuvir-based regimens plus an NS5A inhibitor for patients with HCV genotype 3 infection and cirrhosis. Results of a multicenter real-life cohort. J Viral Hepat. 2017;24:304-11.
20. Papaluca T, McDonald L, Craigie A, Gibson A, Desmond P, Wong D, et al. Outcomes of treatment for hepatitis C in prisoners using a nurse-led, state-wide model of care. J Hepatol. 2019. [Epub ahead of print].
21. Marco A, Roget M, Cervantes M, Forné M, Planella R, Miquel M, et al. Comparison of effectiveness and discontinuation of interferon-free therapy for hepatitis C in prison inmates and noninmates. J Viral Hepat. 2018;25:1280-6.