High prevalence of Hepatitis C Virus infection in people who inject drugs in two cities in Colombia

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Abstract

The Hepatitis C Virus (HCV) is a main challenge in people who inject drugs (PWID). Therefore, HCV screening is a pivotal intervention strategy to identified people with HCV infection and provide the conditions for diagnosis, treatment and follow-up. The aims of this study are to determine the prevalence of HCV infection and to characterize the viral genotypes in PWID in two cities in Colombia within the framework of the integrate policy “Ruta Futuro” of the Colombian Ministry of Justice and the Law.

This cross-sectional study was carried out between August and November 2021 in cities from two different region in Colombia, Armenia and Cucuta. The population aged 18 or older who injecting drugs was recruited using a respondent driven sampling system. After providing study information and signing the informed consent, a capillary blood sample was obtained from each one of the participants; the samples were tested using a rapid HCV test (Bioline HCV). A second capillary blood sample was obtained from those participants positive for the rapid test, transferred to a Whatman filter card and stored at -70°C. Extraction of blood sample viral RNA was performed using a commercial kit (Qiagen). Then, the 5’ untranslated region (UTR) and NS5B region of viral genome were amplified by RT-nested PCR to confirm the result of the rapid test and to determine the viral genotype through phylogenetic analysis.

A total of 530 samples were obtained from PWID in Armenia (n=265) and Cucuta (n=265). Of these samples, 62.8% and 69.6% were positive for HCV rapid test, respectively. Furthermore, the HCV 5’UTR was amplified by RT-nested PCR in 102/153 (66.6%) and 99/172 (57.35%) samples obtained from PWID in Armenia and Cucuta, respectively.

This study shows a higher HCV prevalence than the one reported in 2013 in PWID in these cities and therefore suggest a change in the dynamics of HCV infection in persons injecting drugs in Colombia. Fortunately, the treatment with Direct Action Antivirals (DAA) is available in the country thanks to the national purchase of DAA by the Colombian Minister of Health and the Pan American Health Association.