DRUG AND HEPATITIS C VIRUS ANALYSIS OF RESIDUES FROM USED SYRINGES COLLECTED AT A NEEDLE AND SYRINGE EXCHANGE PROGRAMME IN GOTHENBURG, SWEDEN

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Background:
In Sweden, the aim of needle and syringe exchange programmes (NEPs) is to prevent the spread of bloodborne viruses such as hepatitis C virus and HIV. In addition, improvement of the general health of the NEP's visitors is desired. Previous studies analysing drug content in used syringes show large variance depending on location and time of collection. Thus, data from local NEPs is important for adapting harm reduction measures or treatment of substance use disorders (SUDs). Furthermore, knowledge is scarce on the levels of hepatitis C virus in residues of used syringes. The objective of this study was to assess drug content and levels of hepatitis C virus in used syringes at the NEP of Gothenburg, Sweden.

Methods:
Syringes were collected at the NEP in Gothenburg, Sweden, during one week in November 2021. Liquid chromatography coupled to high resolution mass spectrometry was used for drug analysis. Hepatitis C virus was quantified by real-time PCR.

Results:
At least one drug was found in 99% of the 150 analysed syringes. Amphetamine was the most common drug (81%) followed by buprenorphine (7%) and heroin (6%). Hepatitis C virus was detected in 13% of syringes, with levels varying by an order of 10 000. No fentanyl was detected in this study.

Conclusion:
In Gothenburg, amphetamine was the most commonly injected drug by visitors to the local NEP. Buprenorphine, used as treatment for opioid use disorder, was found in 7 % of the analysed syringes. This raises questions on the accessibility to existing opioid substitution treatment programmes among the visitors to the NEP. Hepatitis C virus was found in 13 % of disposed syringes, some at very high levels, which highlights the importance of distributing a sufficient number of syringes and needles to avoid sharing with risk of spreading the virus.

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