

Letter to the Editor

The impact of heroin illicit market in the framework of COVID 19 pandemic

Dear Editor,

We read with interest the commentary of Tittarelli et al¹ on the current diffusion of higher-purity heroin in Italy and related rise of overdose cases¹. The author discussed not only recent increasing trend in drug purity, but also on the presence of adulterants rising drug toxicity²⁻¹¹ and on the possible risk of the presence of new psychoactive substances as even more hazardous adulterants¹². In the context of this commentary, some short remarks as to the impact of heroin illicit market in the framework of COVID 19 pandemic can be of interest. Indeed, within the extremely serious health emergency that we have been experiencing since the beginning of 2020, the rules set by the authorities during "lock down" have led to a significant drop in the street sale of psychotropic drugs. A scenario that opens up the hypothesis that drug users are turning to the illicit market present in the "dark web", to obtain classic drugs such as cocaine, hashish or heroin. It is plausible that in a period of home confinement, habitual consumers of drugs of abuse no longer search for psychoactive substances stimulating socialization in recreational environments such as cocaine, amphetamines or designer drugs, but rather for compounds to be consumed in solitude to ease confinement anxiety such as tranquilizers (e.g. benzodiazepines) or narcotics (e.g. prescription or illicit opioids and heroin). In this concern, the US National Institute on Drug Abuse (NIDA), has also recently addressed the problem COVID-19, publishing on its website a focus on the possible implications for people with drug use disorders, with special attention to heroin users¹³. NIDA highlighted the determined role of the scientific community and its vigilance on the damage that the pandemic can cause to heroin users, as they are more vulnerable due to the effects that this substance has on the respiratory apparatus. People who consume high doses of heroin and more in general of opioids for therapeutic reasons or because they have an addiction, face a number of problems and threats to their lung health¹⁴. Since opioids and specifically heroin act on the brain stem and reduce respiratory rate, their consumption not only puts at risk of a fatal or potentially lethal overdose, but can also cause a dangerous reduction in the blood oxygen levels potentially harmful to the central nervous system: while brain cells can withstand short periods of poor oxygen supply, they can be seriously damaged when the situation persists. Since several established studies demonstrate how chronic lung disease increases the risk of overdose mortality for heroin users, the reduced lung capacity caused by COVID-19 can seriously endanger heroin consumers. Therefore, physicians should be prepared to monitor the possible adverse effects of heroin consumption in the treatment of drug addicts with COVID-19. In conclusion, the rise of heroin consumption, which is reported internationally¹⁵, the concomitant increase in its purity, the possible presence of toxic adulterants should be seriously taken into consideration by health professional in charge of treating opiates addicts at risk of contracting COVID-19.

Conflict of interest

The authors declare no conflicts of interest.

References

- 1) TITTARELLI R, DI LUCA NM, PACIFICI R, PICHINI S, DEL RIO A, BUSARDÒ F. Heroin purity and adulteration: an updated snapshot from the Italian Early Warning System. Eur Rev Med Pharmacol Sci 2020; 24: 4461-4466.

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- 2) BARBERA N, BUSARDÒ FP, INDORATO F, ROMANO G. The pathogenetic role of adulterants in 5 cases of drug addicts with a fatal outcome. *Forensic Sci Int* 2013; 227: 74-76.
- 3) MARS SG, ONDOCSIN J, CICCARONE D. Sold as heroin: perceptions and use of an evolving drug in Baltimore, MD. *J Psychoactive Drugs* 2018; 50: 167-176.
- 4) TITTARELLI R, PELLEGRINI M, SCARPELLINI MG, MARINELLI E, BRUTI V, DI LUCA NM, BUSARDÒ FP, ZAAMI S. Hepatotoxicity of paracetamol and related fatalities. *Eur Rev Med Pharmacol Sci* 2017; 21: 95-101.
- 5) CICCARONE D, ONDOCSIN J, MARS SG. Heroin uncertainties: eExploring users' perceptions of fentanyl-adulterated and -substituted 'heroin'. *Int J Drug Policy* 2017; 46: 146-155.
- 6) SOLIMINI R, ROTOLO MC, PELLEGRINI M, MINUTILLO A, PACIFICI R, BUSARDÒ FP, ZAAMI S. Adulteration practises of psychoactive illicit drugs: an updated review. *Curr Pharm Biotechnol* 2017; 18: 524-530.
- 7) KARCH SB, BUSARDÒ FP, VAIANO F, PORTELLI F, ZAAMI S, BERTOL E. Levamisole adulterated cocaine and pulmonary vasculitis: presentation of two lethal cases and brief literature review. *Forensic Sci Int* 2016; 265: 96-102.
- 8) PICHINI S, BUSARDÒ FP, GREGORI A, BERRETTA P, GENTILI S, PACIFICI R. Purity and adulterant analysis of some recent drug seizures in Italy. *Drug Test Anal* 2017; 9: 485-490.
- 9) KNUTH M, TEMME O, DALDRUP T, PAWLIK E. Analysis of cocaine adulterants in human brain in cases of drug-related death. *Forensic Sci Int* 2018; 285: 86-92.
- 10) BUSARDÒ FP, PICHINI S, PACIFICI R, KARCH SB. The never-ending public health issue of adulterants in abused drugs. *J Anal Toxicol* 2016; 40: 561-562.
- 11) KYRIAKOU C, PELLEGRINI M, GARCÍA-ALGAR O, MARINELLI E, ZAAMI S. Recent trends in analytical methods to determine new psychoactive substances in hair. *Curr Neuropharmacol* 2017; 15: 663-681.
- 12) ZAAMI S. New psychoactive substances: concerted efforts and common legislative answers for stemming a growing health hazard. *Eur Rev Med Pharmacol Sci* 2019; 23: 9681-9690.
- 13) <https://www.drugabuse.gov/about-nida/noras-blog/2020/04/covid-19-potential-implications-individuals-substance-use-disorders> (accessed April 20, 2020)
- 14) HULIN J, BRODIE A, STEVENS J, MITCHELL C. Prevalence of respiratory conditions among people who use illicit opioids: a systematic review. *Addiction* 2020; 115: 832-849.
- 15) <https://www.drugfreeworld.org/drugfacts/heroin/international-statistics.html>

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