Spatial analysis of drug offences and their use registered by the Lithuanian Police in Vilnius City Municipality in 2015-2022

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Abstract:

The world today is heavily influenced by the use of psychoactive substances, consumption is on the rise, and it is becoming an increasingly serious social problem in Lithuania. Addiction to drugs often has a catastrophic effect on people's health and lives, causing illnesses and leading people down a downward path in life, which often leads to an increase in crime. The media are increasingly reporting on this problem, its prevalence, and the young people who are often victims, without being aware of the possible consequences. The main objective of this study is to identify and map the incidents related to use of narcotics in Vilnius City Municipality in order to provide the necessary information and introduce preventive measures.

In order to achieve the set objectives, this research uses the methods of analysing literature sources and data. Cartographic analysis methods and statistical analysis are also applied. The main data for this study is the event data from the Lithuanian Police Recorded Events Register (hereinafter referred to as PRER), which was analysed using ArcGIS software. The objects of the PRER are further defined as "criminal offences, other offences and events the investigation of which is entrusted by law to the police, individuals taken into police custody and confined in police custody". It is worth noting that this refers to activities that may have links to criminal activity, which does not mean that it is already classified as a crime, as it happens, because it is not necessarily police officers who submit data to this register.

This is the primary data source for this study and provides a wide variety of information ranging from the exact location and date of the event to a broader description of the event. The different years of data, which are collected for 15 years from the date of the event, allow for an excellent analysis and assessment of the recurrence of certain crimes in the selected area. Considering these facts and the amount of data, we have obtained a simplified version of the PRER, which does not include the names of the perpetrators or injured people, thus avoiding data protection breaches. In this study, out of 1,546,141 registered events, 14,623 data records related to drugs and drug use events were used. Event data were aggregated into elderships – minor administrative units of Vilnius.

This study has produced different types of maps showing the prevalence of recorded drug-related offences in Vilnius City between 2015 and 2022. These maps were divided into three different periods: before, during and after the COVID-19 pandemic. During the period under analysis it was found that in the territory of Vilnius the elderships of Naujininkai, Senamiestis, Žirmūnai and Naujamiestis were the most affected. The study observed a significant increase in the number of incidents around Naujininkai eldership, for example Šaltkalvių and Dzūkų wards almost tripled the number of incidents. Generally, a shift of incidents towards the centre of the city was observed.

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