

The Time - Space Analysis of Social Pathologies Related to Drugs (Case Study: Tehran 12th District)

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Introduction

Spatial analysis of urban social pathologies helps to identify patterns of criminal behavior, discover at-risk areas and eventually change the situation by creating spaces for defeating social pathologies and eliminate them from the city. In fact, considering the place, as the immediate cause of social pathologies compared with the individual or structural factors, it seems more feasible to provide practical solutions from prevention of social pathologies. One of the most important and complex issues of Tehran metropolitan city at the present time is the high frequency of crimes and social disorders in the context of the city's old areas. In addition to creating a sense of insecurity and pessimism, this has caused heavy mental and physical injuries on the shoulders of citizens despite great efforts and budget expenditures. According to the official statistics, the number of crimes of the 12th District of Tehran that is known as the Nasery-era Tehran, is much higher than other areas of Tehran. Thus, increase in social pathologies with physical injuries has made this area a dangerous place and hard to live. The first step should be to provide a time-space analysis of various social pathologies of the area, so that strategies to confront these disorders will be decided soon.

Materials & Methods

This study is a practical study with comparative and analytical approach. To identify and understand the spatial pattern of crime in the city, it has used statistical models and graphics based on the geographical information system (GIS). The most important statistical tests used are Mean Center, Standard Deviation Distance and Standard Deviation Ellipse tests and among the clustering tests the nearest neighbor index is used to identify the centers of mass rise. In this study, in addition to statistical tests, graphics methods such as kernel density estimation method has been also used. The data related to crimes of the 12th District have been considered as point events.

Discussion of Results & Conclusions

Among Iran's cities, Tehran has the highest rate of social pathologies because of specific, spatial, physical and social conditions. This positive relationship between population growth and increase in the rate of social Pathologies can be regarded as a result of quantitative increase in the city's population. So it is essential to, with scientific methods and new technologies, identify place-time circumstances in which crimes are committed in Tehran. Tehran's 12th district with 1600 hectares equivalent to 2/7 percent of the total area of Tehran has

allocated according to statistics 3.17 percent of the total population of Tehran. Evaluation of the relative density of population in 12th district show that in these area 154.5 people live per hectare, while the relative density of population in Tehran is 131.6 people per hectare. Therefore relative density of population in district 12 of Tehran is greater than the average density in Tehran city.

The findings show that although district 12, only has allocated 2.7 percent of the land area, but the most percentage occurrence of social pathologies occurred in this area of Tehran. In other words, from 6006 cases of studied crime in this study that occurred in Tehran, about 560 cases, occurred in the 12th district.

Based on the time analysis which determines the type and extent of crime in the 12th district, the peak time and the time center of gravity of crimes is 13 and Wednesday, with frequency of 10-8 crime events in this hour and day. Also on the same time at 12:30 to 13:30, 8-6 cases of crime occurs. The findings show that the average center of crimes related to drugs on 12 district is coincided largely with the geographical center of this region, on the streets of Nasser Khosrow, leading to the 15 Khordad street. Standard deviation ellipse of this type of crimes has mode circle, which represents the geographic distribution of crimes on

different directions. It seems that the location of subway stations Saadi, Molavi and Rahahan has influenced the direction of this ellipse, because the highest concentration of crimes has been towards these stations.

The nearest neighbor index on dispersion of the whole crimes related to drug on 12th district of Tehran is equal to 0.62 and based on the Z value of these crimes, that is 7.62, confirms the cluster of the spatial distribution of points related to the whole crimes associated with drug on area of the study.

With the study of spatial pattern of crimes related to drug in the 12th district using the kernel density method, the results of previous studies were confirmed in this test, indicating that the distribution of crimes within this district gathered a cluster. In other words, parts of 12th District are faced with high rates of criminality and in other parts this criminality is minimal or zero. The distribution of places of crimes in 12th District shows that Square Mohammedia in the southwestern of the District and Esteghlal Square in the northwestern are the main focus of crimes related to drug. There is a good market for the supply and sale of drugs, due to excess consumption in these areas, easy distribution of material in these Squares, Lack of official control. Finally, the existence of subway stations in Mohammedia and Esteghlal Squares has created appropriate focus for crimes related to drug in these areas.

Keywords: Time - Space Analysis, Social Pathologies, Crimes Related to Drug, 12 District, Tehran City.

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