

Using Geographical Information System to Identify High Risk Areas of Substance Abuse in Malaysia

Chan Yuen Fook (Ph. D)
Faculty of Education
Universiti Teknologi MARA, Malaysia
Email: yuenfook@salam.uitm.edu.my

Nor Aizam Adnan
Faculty of Architecture, Planning and Surveying
Universiti Teknologi MARA, Malaysia
Email: adnannoraizam@gmail.com

Abstract

Substance abuse problems have been a growing concern from all over the world. Not surprising, the abuse of illicit drugs remains a serious problem in Malaysia. Over the decade there has been a drastic increase in illegal drugs used. Current methods for estimating the incidence, prevalence, and spread of drug misuse tend to be retrospective and are not capable of forecasting spatio-temporal trends. Mapping of drug misuse is therefore restricted to displays of incidence and prevalence rates. Hence, the objective of this study is to develop a “Geographical Information System” to identify the high-risk areas of substance abuse in Malaysia. The research methodology consists of three parts which are the creation of the spatial distribution and interpolation analysis, hot spot map and spatial drug abuse risk map. The study area consisted of six different states in Malaysia, namely, Pulau Pinang, Kedah, Kelantan, Johor, Selangor and Wilayah Persekutuan Kuala Lumpur. The data used in this study were collected from two different agencies which are AADK’s data and PDRM’s data. Both data were processed by using ArcGIS software to produce hot spot map, spatial distribution map and geostatistical analysis. The findings of the study showed that Pulau Pinang has the highest number of drug abuse. This analysis also revealed that mostly ‘very high’ hot spot areas are located in the capital city or in vicinity for each state such as Pulau Pinang (Georgetown), Johor (Johor Bharu), WP Kuala Lumpur (Ampang, Cheras), Kelantan (Kota Bahru, Pengkalan Chepa), Selangor (Klang, Damansara, Ampang Jaya) and Kedah (Kota Setar, Jitra). This specific data analysis related to drug abuse can be used by local authority to objectively focus on these areas to intensify drug prevention program such as Perangi Dadah Habis-habisan (PDH) initiatives to reduce the number of drug abuse cases in these six high prevalence areas.

Keywords: Geographical information system, high risk areas, substance abuse