Tuberculosis incidence in Karachi: A spatio-temporal analysis

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Abstract

Records of WHO and International Union against TB and lung diseases have described the TB situation in Pakistan as one of the worst in the world. Karachi is the mega city of Pakistan and facing innumerable problems. The Government of Pakistan launched TB control program with the help of WHO all over Pakistan. The Karachi authorities were facilitated with TB diagnosis equipments and financial support to existing public and private health centres, and NGOs to enable them to conduct free TB tests of suspected patients. The purpose of the present study is to use exploratory disease mapping to determine salient spatial patterns through GIS applications and demarcate the concentration zones of tuberculosis patients in the study area. The spatial analysis had revealed that the number of patients recorded at TB diagnosis centers of Karachi had gradually increased during the study period of 2010 to 2013 except in 2012 when there was a decrease in number. The spatial analysis had also indicated that the majority of patients belonged to low income groups and resided in kacchi abadies. This spatio-temporal analysis suggests a number of remedial measures the government can take to ameliorate the existing TB conditions in Karachi including utilizing health GIS as an effective tool in risk area assessment, improving accessibility of patients and delimitation of BMUs.

Keywords: epidemiology, Karachi, lung diseases, spatial analysis, TB, temporal analysis