

ABSTRACT

This study was conducted to determine the factors that may affect the prevalence of tuberculosis (TB) in the lungs in sub-Districts of Surabaya. This study is a non-reactive type of research which is a type of research for secondary data. The unit of analysis in this study of 31 sub-Districts in the city of Surabaya with response variables such as the number of cases of pulmonary TB (Y). The study is looking at the effect of predictor variables (X) in each district by using spatial analysis to determine which variables are the dominant influence in the region. The predictor variables examined were; the number of health centers (X1), the number of dwelling (X2), the number of poor households (X3), and population density (X4).

The best of spatial model was modeling MGWR with minimum AIC value as 343,231. This study found a predictor variable (X), which affects the response variable (Y) significantly entirely in all the sub-District was a variable number of dwelling (X2). Variable number of puskesmas (X1) effect on the 18 sub-Districts were; Sukomanunggal, Tandes, Asemrowo, Benowo, Genteng, Tegalsari, Bubutan, Simokerto, Pabean Cantikan, Semampir, Krembangan, Bulak, Kenjeran, Tambaksari, Gubeng, Sukolilo, Mulyorejo, Sawahan. Variable number of poor households effect on 10 sub-Districts such as; Wonokromo, Karang Pilang, Dukuh Pakis, Wiyung, Gayungan, Wonocolo, Jambangan, Tenggilis, Lakarsanti, Sambikerep. There was 3 sub-District that does not had a significant variable to the increase prevalence number of TB were Pakal, Rungkut and Gunung Anyar.

The conclusion of this research was the analysis of spatial regression modeling MGWR suitable for used in the analysis of the number of TB prevalens. Variations of pulmonary TB cases in the city of Surabaya higher with the spread of cases are clustered in some areas because it had a spatial effect.

Keywords: Tuberculosis, Spatial Regression