Abstract

Spatial Regression on Maternal Mortality in Jember (Secondary Data on Maternal Mortality Rate at the Health Office, District Jember, 2012)

Spatial regression model is the one that aims to determine relationship between dependent variable and independent variables with respect to spatial linkages. In regard with maternal mortality in East Java in 2011 - 2012, Jember hold the highest position with 43 maternal deaths. This study examined the influence of the causes of maternal death in Jember in 2012 by taking into account the spatial aspects. This study was a non-reactive or unobstrusive study. Data were taken on maternal deaths recorded in all districts in Jember District Health Office area in 2012. This research analyzed the independent variables, consisting of the first antenatal care, antenatal care, postnatal care, delivery at health professionals and non health professionals, active planning participants, askeskin participants, crude birth rate, high-risk pregnant women and distance to the referral hospital. Analysis units comprised 31 districts in Jember. The statistical test used was spatial regression. The results of Moran Index test had 0.0761849, indicating the presence of autocorrelation of dependent variable after in each subdistrict with queen contiguity. Results after spatial regression test on this data using the Spatial Error Model (SEM) had p value of 0.0493692. SEM test results obtained lambda (λ) -0.7337283 indicating there was the influence of error in each subdistrict with significance less than alpha (α) 10%. Eight of the ten variables in this study were found to be significant, so that we obtained regression equations: $Y = 13{,}71639 – 0.7337283\ Wu - 0.05764616X_2 - 0.2172268X_3 - 0.02490721X_4 + 0.1478997X_5 + 0.1969226X_6 - 0.03696313X_7 - 0.0001653367X_8 + 0.0001903335X_9$. This study is expected to be used as a basis for policy-making and consideration of relevant agencies in the effort to reduce maternal mortality in Jember.

Keywords: spatial regression, maternal mortality