

ABSTRACT**Modeling the Factors Affecting Maternal Mortality in East Java Province In 2010 Using the Zero inflated Poisson Regression**

Zero inflated Poisson Regression Analysis Regression (ZIP) is used for discrete data modeling which is indicated by many 0 values on the dependent variable. The objective of this research was to model the factors that affecting maternal mortality rate in East Java in 2010 using ZIP. This was a non reactive research with profile of East Java Provincial Health Office in 2010 as the secondary data. The profile data were the results of health centers routine recapitulation from Information and Research and Development Section on the whole regencies/cities in East Java. The unit analysis in this research was 950 health centers in the regions of East Java. The estimated results of ZIP log model parameter showed that childbirth assistance by health practitioners ($\beta_7 = -0.050655$), postnatal care ($\beta_8 = 0.004500$), and pregnancy complications ($\beta_9 = -0.004528$) affected the number of maternal deaths while the estimated parameter logit model showed that occurrence probability of maternal mortality in East Java in 2010 was determined by the delivery helped by health practitioners ($\beta_7 = -0.0662297$) and care during postnatal period ($\beta_7 = -0.012563$). ZIP model (AIC = 2199.391) was better when compared with the Linear regression (AIC = 3996.563), and Poisson regression (AIC = 2392.636). Each increase in birth numbers helped by health practitioners would reduce maternal mortality by 0.9506 times. Postnatal services would influence about 1.0045 times on the increased risk of maternal death, the increased pregnancy complications, and also the increased of maternal mortality probability by 1.0045 times. The conclusion is that ZIP estimates the incidence of maternal mortality far better than other forms of discrete data with many 0 values on the dependent variable.

Keyword: Maternal Mortality, Zero inflated, Poisson.