ABSTRACT

Structural Equation Modeling Spatial Health Status of Children under 5 years In Indonesia

Health status of children under 5 years was one of the main public health indicators in a country. Health status of children under 5 years was difficult to be directly measured, thus require indicators to describe it. The indicators were direct, intermediate and underlying factor. Previous research showed SEM spatial was helpful to examine the influence within indicator and got better models than non-spatial SEM. This study was a non-reactive or un-obstrusive study, examined on direct factor of SKB (ANC, INC, PNC), composed of 4 latent variables and 22 indicators. Secondary data were taken on Riskesdas 2010 reported, sourced of Balitbangkes Kemenkes RI by the unit of analysis all provinces in Indonesia (33 Provinces). Data were analyzed by 3 programs and three stages: selecting indicators significant affect health status of children under 5 years (R program), significant indicators mapping (ArchView GIS 3.3 program) and choosed the best model (OpenGeoda program). The results showed 14 indicators significantly affect health status of children under 5 years, there was dependencies spatial (*Moran's I* value = 0049), there was dependency of spatial error (*LM error* test = 0.0389), the model SEM showed coefficient error (λ) = - 1 and p value = 0.000, the variable coefficients after weighted by *queen contiquity* of ANC was (0.4120, p = 0.0032) , INC (0.4183, p = 0.0134) and PNC (-0053, p = 0.7626). The best model based on the value of R^2, *AIC* and *SC* was known *spatial error models* (R^2 = 0.6506). The matrix equation was : $SKB_i = -1 \sum_{j=1, i \neq j}^{n} w_{ij} \eta_i + 0.4120375_{ANC} + 0.4183403_{INC}$. So 65,06% variation of SKB explained by ANC and INC. This study is expected to be used as a basis for policy making in Indonesia, suggested to improve the health services focused on the ANC and INC by adding the intermediate and underlying factors.

Keyword: *SEM, Spatial, Children under 5 years's Health Status (SKB)*