

Spatio-Temporal Diffusion Pattern and Hotspot Detection of Dengue in Kuala Penyu, Sabah

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ABSTRACT

INTRODUCTION: This study presents a GIS approach to analyse the spatial and temporal dynamics of dengue epidemic. The major objective of this study was to examine spatial diffusion patterns and hotspot identification for reported dengue cases in Kuala Penyu, Sabah. **METHODS:** Data related to dengue cases were gathered from the Sabah State Health Office, Ministry of Health Malaysia. Geospatial analysis was applied to further study the spatio-temporal patterns of dengue fever cases in data set, including hot spot/cold spot analysis and geographically weighted regression models. **RESULTS:** Spatial and temporal variation of dengue cases was observed in the geographic areas affected by dengue cases. This study demonstrated that the locally-acquired dengue cases have exhibited a spatial and temporal variation over the past twenty years in tropical district of Kuala Penyu, Sabah. There is a clear evidence for the existence of statistically significant clusters of dengue and these clusters. **CONCLUSION:** This study presents useful information related to the dengue outbreak patterns in space and time and may help public health departments to plan strategies to control the spread of disease. The methodology is general for space-time analysis and can be applied for other infectious diseases as well.

KEYWORDS: dengue, outbreak, Geographic Information System (GIS)

Study of Social Support and Factors Affecting Efforts in Improving the Quality of Life for Patients with Pulmonary Tuberculosis

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Tuberculosis (TB) is an infectious disease caused by the bacteria known as *Mycobacterium tuberculosis*. Decreased quality of life of TB patients can have a negative impact on the continuity of therapy which cause therapy failure. The quality of life of pulmonary TB patients is important to be evaluated in various aspects starting from the aspects of physical well-being, psychology, social and environmental relations. The purpose was to examine social support and influencing factors that influence the efforts on quality of life of pulmonary TB patients. This observational research used cross sectional design. The population for this study was all pulmonary tuberculosis patients in Palembang City. This study obtained a total sample of 111 people. The quality of life was measured by the Indonesian WHOQOL-BREF questionnaire and the results were obtained by univariate, bivariate, and multivariate analysis using the 22 SPSS. From the 111 respondents it was obtained a good percentage of (71,7%) for quality of life of tuberculosis patients in Palembang City Health Center and poor percentage of (28.83%). There was no significant relationship between demographic characteristics (age, sex, BMI, education, employment status, and marital status), blood pressure, history of diabetes, and history of smoking with the quality of life. There is a significant relationship between duration of treatment, family support, friend support, and community support with the quality of life of tuberculosis patients (p value <0.05). Patients with tuberculosis with poor family support have the opportunity to have a poor quality of life of 86.18%.

KEYWORDS: Social support, quality of life, sociodemographic characteristics, pulmonary tuberculosis