

SPATIAL AND TEMPORAL SCAN STATISTICS TO IDENTIFY CLUSTERS OF DENGUE INCIDENCE IN JAMBI

Muhammad Syukri, Helmi Suryani Nasution, Andy Amir

Study Program of Public Health, Faculty of Medicine and Health Sciences, Universitas Jambi

ABSTRACT

Background: The incidence of dengue fever has spread to all districts/cities in Jambi Province with the highest number of cases in Jambi Municipality. There is no study has been done on the patterns of distribution of dengue cases in Jambi Municipality. This study aimed to identify the spatial and temporal patterns of clusters of dengue cases in Jambi.

Subjects and Method: Retrospective spatial and temporal scan statistics using the SatScan application were carried out at the sub-district level. The coordinates of 62 sub-district offices were obtained using the Google Earth Pro application. Data concerning the population were obtained from the Central Statistics Agency of Jambi Municipality. DHF case report data from January 2015 to December 2020 obtained from the Jambi Municipality Health Office were analyzed using the Poisson model to identify sub-district with a high risk of DHF.

Results: In five years, there were 2,916 cases of dengue fever in Jambi Municipality. The results of this study found significant clusters during the study period. Clusters of dengue cases showed consistent occurrence in the mid, southwest and southern regions, this showed that the case of DHF has been persistently transmitted within these areas.

Conclusion: The results of this study are useful to control dengue cases in Jambi Municipality. Further studies are needed to determine the risk factors associated with dengue cases in cluster areas.

Keywords: clusters, dengue, scan statistics, jambi municipality.

Correspondence:

Muhammad Syukri. Study Program of Public Health, Faculty of Medicine and Health Sciences, Universitas Jambi. Jl. Jambi Muara Bulian Number 15, Mendalo Darat, Jambi. Email: syukri.muhammad@unja.ac.id. Mobile: +6282182189139.