ABSTRACT

SUJONI. Spatial Analysis of Jembrana Disease in South Kalimantan Province. Under supervision of SURIA DARMA TARIGAN and BAMBANG PURWANTARA.

Jembrana Disease (JD) is an acute infectious disease in Bali cattle that caused by Jembrana Disease Virus. It is causes high economical losses and endemic in several provinces in Indonesia. Studies on the epidemiology of JD rarely consider the spatial dimension of disease prevalence. Geographic Information System (GIS) has been increasingly used in spatial epidemiology to analyze the disease pattern based on the geographical data. This study presents the spatial analysis of JD to provide information about the distribution of JD in South Kalimantan province. Serological data were obtained based on the surveillance throughout the province and screened using PCR diagnostic technique during 2008 to 2010 to determine JD seropositive. JD was found mostly in the northern, southern, and western parts of the province. The seroprevalence of JD was higher in district of Banjarbaru, Banjar, and Tanah Laut. Using spatial scan statistic, the distribution of JD was spatial clustered in specific area. This elevated risk within the cluster was significant (p<0.001). JD seropositive positively associated with cattle density and distance to the main rivers and negatively associated with cattle density and elevation. It indicates that JD seropositive was higher in lowland and the area with higher cattle density.

Keywords: spatial analysis, jembrana disease, GIS, South Kalimantan province