Spatial Analysis and Risk Factors of COVID-19 at Dr. Tadjuddin Chalid Hospital In 2021

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Abstract. An infective disease caused by SARS-CoV-2 is Coronavirus Disease (COVID-19). During the COVID-19 pandemic, Biringkanaya had the highest confirmed cases in Makassar City. The increase in BOR (Bed Work Rate) in mid-2021 in several hospitals can be clarified as the big number of COVID-19 cases at that time. Based on this, the aim of this study is to develop the spatial distribution of COVID-19 cases, analyze spatial distribution patterns, and analyze regional parameters of population density for COVID-19 cases using Geographic Information System (GIS). The method used is based on secondary data at Dr. Tadjuddin Chalid Hospital in 2021. The technique is based on using ArcGis software to see case grouping, namely the Nearest Neighbor Analysis (NNA) and using GeoDa software to see the spatial correlation between population density and COVID-19, namely regression models analysis. This study resulted that the COVID-19 cases at Dr. Tadjuddin Chalid Hospital were spread across five sub-districts with the regional grouping of COVID-19 cases tending to be random. In addition, regression models suggest that there are no association between-population density and COVID-19 (p value=0.227). It is known that the highest proportion of population density, but not always the lowest proportion, is in areas of low population density.

Keyword: COVID-19, GIS, spatial analysis, risk factors.