**Pattern Analysis Of Depression Using Geographic Information System [GIS] : A Case Study Of Hospital Sultanah Bahiyah, Kedah / Nur Iwani Zahari**

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Depression is a common chronic disorder that affects individual functioning and is related with increasing in suicide rates. A person that suffered depression will show a depressed mood, loss of interest in everything they used to do, low self-worth and lose focus in their everyday life. Geographic Information System (GIS) is a tool for mapping, capturing, collecting, examining, integrating, controlling, analysing and display information which are spatially referenced. The aim of this study is to investigate the trend of depression cases using descriptive analysis and to analyses the pattern of depression using spatial statistics. The secondary data was collected from Hospital Sultanah Bahiyah, Kedah. This data will be mapped in ArcGIS application. Spatial autocorrelation or Moran’s I is a tool for analyzing patterns either it is dispersed, random or clustered. Hotspot analysis used for mapping clusters. The finding of this study shows most of the patterns obtained does not appear to be significantly different than random with low z-score and high p-value which is p>0.05. Thus, null hypothesis cannot be rejected. For hotspot detection, Alor Setar area shows hot spot of depression cases in Kedah from year 2014 until 2017 with standard deviation of >2.58 with 99% confidence level. The cold spot detected in Yan area with standard deviation of -1.96 – -1.65 shows 90% confidence level. This research will help the state government to raise the awareness on mental health issues in Kedah and increase the facilities such as psychiatric centre in hot spot region.