

# Overview of COVID-19 clusters in Kelantan state from 2020 - 2023

**Mohd Faiz Md Ariffin, Suhaiza Sulaiman, Tan Kean Teong, Muhammad Fikri Idris, Mohd Aidinniza Mohd Adib, Mohd Pazli Zainol, Nursuhailee Che Zake, Raja Hafendi Raja Abdullah**

Surveillance Unit, Disease Control Branch, Kelantan State Health Department, Kelantan, Malaysia

## ABSTRACT

**Introduction:** The COVID-19 pandemic continues to pose significant challenges worldwide, with clusters of infections emerging in various regions. Kelantan, one of the states in Malaysia, experienced a notable surge in COVID-19 cases and clusters during the period of pandemic. This study aims to provide an analysis of the cluster of COVID-19 in Kelantan, Malaysia, highlighting an overview of the key characteristics of the COVID-19 cluster, including its size, duration, and geographic distribution. **Materials and Methods:** A descriptive study was conducted by reviewing the Kelantan COVID-19 Cluster Registry, and reports on COVID-19 clusters in Kelantan from Epidemiology Week 40/2020 until 24/2023. The cluster was primarily identified by the investigation team at the district level and was notified to the State CPRC with a specific format following verification by the District Epidemiology or Health Officer. A cluster was defined as five or more cases with epidemiological links. Clusters were categorized by districts involved, type of clusters and the magnitude of the clusters in terms of size, extension, and duration. Data were entered and analysed using SPSS version 23. **Results:** A total of 870 clusters were reported in Kelantan, in which 848(97.5%) clusters were declared in Kelantan and 22 (2.5%) were declared from the other states. These clusters involved 29921 cases which is 11.4% of total registered cases in Kelantan within the same period. Majority of the clusters reported in 2021 (755 clusters; 86.8%), occurred in Kota Bharu District (336 clusters; 38.6%), involved only one district (587 clusters; 67.5%) and less than 30 cases/cluster (606 clusters; 69.7%). The major types of clusters were the community cluster (498; 57.2%), work-related cluster (190; 21.8%) and education-related clusters (130; 14.9%). The mean cluster size and duration were determined to be 34.2(SD 56.87) cases and 35.7(SD 11.41) days, respectively. Out of the total number of clusters, 89 (8.7%) were associated with mortality events. **Conclusion:** This study sheds light on the cluster of COVID-19 in Kelantan, Malaysia, providing valuable insights into its patterns and characteristics. Further study on risk factors should be done to have a better understanding of disease transmission in the cluster.