

Factors associated with mortality among COVID-19 patients in Kota Bharu district, Kelantan

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ABSTRACT

Introduction: Kelantan had reported a significant COVID-19 mortality rate of 7 deaths per 10,000 people by the year 2022. Despite this, the state still has the lowest COVID-19 vaccination coverage in Malaysia, with only 65% of the population receiving at least one dose. Therefore, it is crucial to explore the factors associated with COVID-19 mortality, particularly the relationship between COVID-19 vaccination and death, to promote vaccination in Kelantan. The objective of this study was to determine the factors associated with mortality among adult COVID-19 patients in Kota Bharu in the year 2022. **Materials and Methods:** A retrospective cohort study was conducted from January 1, 2022, to December 31, 2022, using secondary data of confirmed COVID-19 cases from the surveillance unit of the Kelantan State Health Department. The study included confirmed COVID-19 patients aged 18 years and above. Multiple logistic regression analysis was then employed to examine the adjusted associations between the selected factors and COVID-19 mortality. **Results:** A total of 29,720 COVID-19 cases were reported in the year 2022, with 73 fatalities, resulting in a case fatality ratio of 0.2%. Multiple logistic regression analysis revealed that being vaccinated (at least one dose) decreased the odds of dying from COVID-19 by 49% (aOR 0.51, 95% CI; 0.30-0.89) compared to unvaccinated patients, after adjusting for age. Additionally, for each year of increase in age, the odds of dying from COVID-19 increased by 12% (aOR: 1.12, 95% CI: 1.10-1.14) after adjusting for vaccination status. **Conclusion:** This study underscores the importance of COVID-19 vaccination in preventing COVID-19-related deaths. Being vaccinated significantly reduces the risk of mortality among COVID-19 patients. Additionally, age remains a significant factor to COVID-19 mortality.