

High transmission rates of early omicron sub-variant BA.2 in Bangkok, Thailand

Ananporn Supataragul¹, Sininat Petcharat¹, Piyapha Hirunpatrawong², Pattama Torvorapanit¹, Chonticha Klungthong³, Piyawan Chinnawirotpisan³, Sasiprapa Ninwattana¹, Nattakarn Thippamom¹, Leilani Paitionpong¹, Gompol Suwanpimolkul¹, Watsamon Jantarabenjakul¹, Rome Buathong³, Khajohn Joonlasak⁴, Wudtichai Manasatienkij⁴, Khwankamon Rattanatumhi¹, Napaporn Chantasrisawad¹, Nuntana Champa¹, Thomas Cotrone S⁴, Stefan Fernandez⁴, Sira Sriswasdi², Supaporn Wacharapluesadee¹, and Opass Putcharoen¹

¹King Chulalongkorn Memorial Hospital

²Chulalongkorn University Faculty of Medicine

³Department of Disease Control

⁴Armed Forces Research Institute of Medical Sciences

August 2, 2023

Abstract

Omicron emerged as the fifth variant of concern of SARS-CoV-2 coronavirus pandemic in late 2021 and rapidly overtook the previously predominant Delta variants with a significantly faster transmission rate and unique mutations on the spike gene. Hence, the ability to identify viral variants rapidly and affordably in large number of patients, which facilitates the monitoring of the transmission and clinical impact of new variants, is needed to obtain information for updating the public health policy. In this study, we evaluated the capability of two RT-PCR and mass spectrometry-based SARS-CoV-2 variant classification platforms to distinguish Delta, Omicron BA.1, and Omicron BA.2 variants in 618 COVID-19-positive samples from patients in Bangkok collected during November 2011-March 2022. Analysis of the time-evolution pattern of SARS-CoV-2 variant profiles indicated that the BA.1 and BA.2 possess up to 2-3 times higher transmission rates than the Delta variant. Our study showcases a cost-effective virus surveillance that enables a quantitative estimation of variant-specific public health impact.

Hosted file

Omicron_bangkok_v7_072523_formatedJMV.docx available at <https://authorea.com/users/645576/articles/657934-high-transmission-rates-of-early-omicron-sub-variant-ba-2-in-bangkok-thailand>