

## Positivity Rate of Person under Surveillance among Institut Jantung Negara's Patients with Various Vaccination Statuses in the First Quarter of 2022, Malaysia

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**Abstract :** During the Coronavirus (COVID-19) pandemic, Malaysia has been focusing on building herd immunity by introducing vaccination programs into the community. Hospital Standard Operating Procedures (SOP) were developed to prevent inpatient transmission. Objective: In this study, we focus on the positivity rate of inpatient Person Under Surveillance (PUS) becoming COVID-19 positive and compare this to the National rate in order to see the outcomes of the patient who becomes COVID-19 positive in relation to their vaccination status. Methodology: This is a retrospective observational study carried out from 1 January until 30 March 2022 in Institut Jantung Negara (IJN). There were 5,255 patients admitted during the time of this study. Pre-admission Polymerase Chain Reaction (PCR) swab was done for all patients. Patients with positive PCR on pre-admission screening were excluded. The patient who had exposure to COVID-19-positive staff or patients during hospitalization was defined as PUS and were quarantined and monitored for potential COVID-19 infection. Their frequency and risk of exposure (WHO definition) were recorded. A repeat PCR swab was done for PUS patients that have clinical deterioration with or without COVID symptoms and on their last day of quarantine. The severity of COVID-19 infection was defined as category 1-5A. All patients' vaccination status was recorded, and they were divided into three groups: fully immunised, partially immunised, and unvaccinated. We analyzed the positivity rate of PUS patients becoming COVID-positive, outcomes, and correlation with the vaccination status. Result: Total inpatient PUS to patients and staff was 492; only 13 became positive, giving a positivity rate of 2.6%. Eight (62%) had multiple exposures. The majority, 8/13(72.7%), had a high-risk exposure, and the remaining 5 had medium-risk exposure. Four (30.8%) were boosted, 7(53.8%) were fully vaccinated, and 2(15.4%) were partial/unvaccinated. Eight patients were in categories 1-2, whilst 38% were in categories 3-5. Vaccination status did not correlate with COVID-19 Category ( $P=0.641$ ). One (7.7%) patient died due to COVID-19 complications and sepsis. Conclusion: Within the first quarter of 2022, our institution's positivity rate (2.6%) is significantly lower than the country's (14.4%). High-risk exposure and multiple exposures to positive COVID-19 cases increased the risk of PUS becoming COVID-19 positive despite their underlying vaccination status.

**Keywords :** COVID-19, boosted, high risk, Malaysia, quarantine, vaccination status

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