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INSPEM'S ONLINE
WEEKLY SEMINAR

DATE : 7 AUGUST 2020 | TIME : 3.30 PM
MEDIUM : VIDEO CONFERENCE (GOOGLE MEET)

https://meet.google.com/ukd-gbou-seo

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Topic : Investigating Malaysia's preparedness towards the second wave of COVID-19 via SIR modelling

ABSTRACT

Purpose: This work simulates the infectious trend of COVID-19 in order to understand, predict and estimate the severity of the disease and to gauge Malaysia's existing preparations and policies on the issue. The simulation is then used to predict the number of cumulative infectious individuals within the society which then serves as a measure to investigate the readiness of Malaysia in battling against the second wave of the outbreak.

Methods: Confirmed positive infectious cases (as reported by Ministry of Health, Malaysia (MOH)) from Jan 25, 2020 to March 31, 2020 were used to infer the severity of the COVID-19 infectious trend in Malaysia. We simulated the infectious count for the same duration and extended the trajectory for another two and four weeks to assess the predictive capability of the Susceptible-Infectious-Recovered (SIR) model. We also utilized the transmission rate β to predict the cumulative number of infectious individuals.

Results: Our predicted cumulative number of infectious individuals tallies with the preparations undertaken by the MOH and the simulation does provide an indication of the severity of COVID-19 disease outbreak in Malaysia.

Conclusion: The SIR model that we obtained was not far off from the actual count and its simulated decline is in correlation with the introduction of Malaysian control measures such as the Movement Control Order (MCO), social distancing and increased hygienic awareness.

Keywords: COVID-19 trend; COVID-19 readiness; epidemic models; predictive analytics;

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