ANALYSES OF THE EFFECTIVENESS OF MOVEMENT CONTROL ORDER (MCO) IN REDUCING THE COVID-19 CONFIRMED CASES IN MALAYSIA

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Abstract

The COVID-19 pandemic resulted in 5 consecutive Movement Control Orders (MCOs) in Malaysia in an attempt to flatten the epidemiological curve, with a reduction of cases. This study aims to use statistical analysis to assess whether the decisive public health interventions in the MCO were efficacious. Three statistical tests were employed: Mann-Kendall trend analysis; one way between groups ANOVA; and Pearson correlation test. Results demonstrated significant differences between the second block, MCO 3-5, compared to MCO 1-2. Johor and Selangor states experienced significant increase in early MCO, whereas Sarawak and Selangor states experienced significant decrease by MCO 3-5. The northern border states of Kedah, Perlis and Kelantan, had caseloads stabilised to zero by MCO 4/MCO 5. This study demonstrates that the MCO was effective within the target of twice the two-week incubation period of COVID-19, with cases from community transmission and importation through the air and southern land borders. Selangor and Sarawak had higher cases in early MCO due to situational factors. In conclusion, MCO has been efficacious, with different states attaining different levels of case reduction due to individualised reasons.

Keywords: COVID-19, Movement Control Orders, Malaysia

Introduction

The coronavirus disease 2019 (COVID-19) pandemic was first detected in China in late 2019, causing respiratory and systemic symptoms including fever, cough, pneumonia, and diarrhoea in patients (1). The World Health Organization (WHO) was notified on 31 December 2019 regarding this illness by the report of a cluster of cases of pneumonia in Wuhan, in the Hubei Province of China, and a week later China confirmed that a novel coronavirus had been identified (2). More new cases were noted in other countries as international travel and trade were still operating as usual.

On 30 January 2020, WHO declared COVID-19 as a "Public Health Emergency of International Concern" and as a pandemic on 11 March 2020 as new cases were surging all over the world (2). As of date, WHO had reported over 23 million cases globally, affecting more than 180 countries, with 800,000 COVID-19 fatalities with a reported overall fatality rate of 3.48% (3).

On 25 January 2020, Malaysia reported its first three confirmed COVID-19 cases, which were importations from a Singapore cluster (4), hence entering the alert phase of the pandemic. A lockdown was not instituted in the early stages as cases in Malaysia were increasing slowly, largely owing to external importation. However, on 9 March 2020, Malaysia was surprised by the information from a neighbouring country that there had been positive cases linked to a hitherto unknown mass gathering in Malaysia from 1-3 March. Due to the one-week delay in contact tracing and case finding, there was a second wave of infection with more than 1000 cases including two deaths by early March, thus entering the containment phase in Malaysia. Under the national Prevention and Control of Infectious Disease Act 1988 and Police Act 1967, a nationwide movement control order (MCO) beginning 18 March 2020 was introduced to flatten the epidemiological curve (5). Multiple multisectorial efforts at different levels in different independent organisations were organised upon entering the containment phase, including social distancing measures and national lockdown of all non-essential businesses. This MCO has so far lasted for five two-week cycles, with a consequent reduction in cases.

This study aims to use mathematical modelling and statistical analysis to assess whether the decisive public health interventions taken in the MCO were efficacious. Looking at overall trends nationwide employing descriptive data, it was possible to see a gross reduction in cases. However, mathematical modelling can help us examine whether the nation has achieved its target in terms of reproductive number (R0). The COVID-19 pandemic was calculated to have an R0 between 1.6 and 3.5, with an average of 2.5 from different modelling methods (6). The R0 is required to reduce to below 1 for the pandemic to fail to transmit in the community (7)and healthcare workers (HCWs. Hence, this study aims to use statistical analysis to assess the effectiveness of MCO in reducing the number of confirmed cases.

Materials and Methods

The analysis was divided into two sections, namely the national level and state level. Each of the levels was then divided into five phases: pre-MCO (4 March 2020 - 17 March 2020); MCO 1 (18 March 2020 - 31 March 2020); MCO 2 (1 April 2020 - 14 April 2020); MCO 3 (15 April 2020 - 28 April 2020); and MCO 4/MCO 5 (29 April 2020 - 12 May 2020, indicating two separate stages of MCO during this period); with each phase covering 14 days interval. All data to analyse each phase of the MCO was obtained from publicly available daily statistics from the official Ministry of Health Malaysia websites and press releases (Supplementary Table 1). It was triangulated with official statistics which are available from state health departments to ensure doubly confirmed accuracy of data. All the data was secondary and was hence publicly available and did not involve any potential breaches of confidentiality or privacy.

Three statistical tests were employed; Mann-Kendall trend analysis, one way between groups ANOVA, and Pearson correlation test. The Mann-Kendall trend analysis was used to test a monotonic trend in the daily time series of confirmed cases (8). The daily number of confirmed cases were evaluated as an ordered time series. Each data value was compared to all subsequent data values. The initial value was assumed to be 0. Let represent data points where represents the data point at time . Then the Mann-Kendall statistic (Tau) is given by

$$Tau = \sum_{k=1}^{n-1} \sum_{j=k+1}^{n} sign(x_j - x_k)$$

where

$$sign(x_j - x_k) = \begin{cases} 1 \; if \; x_j - x_k > 0 \\ 0 \; if \; x_j - x_k = 0 \\ -1 \; if \; x_j - x_k < 0 \end{cases}$$

A positive value of Tau indicates an upward trend, while a negative value indicates a downward trend.

One way between groups ANOVA was employed to test a null hypothesis that the means of the confirmed cases in all states in Malaysia were equal. The F-statistic ratio for one-way ANOVA was calculated as below (9):

$$F = \frac{MS_M}{MS_R}$$

This F-ratio measured the ratio of the variation explained by the model or between-groups variance (i.e., MS_M) and the variation explained by unsystematic factors or within-group variance (i.e., MS_R). If the null hypothesis is false MS_M, will generally be larger than MS_R. Rejection of the null hypothesis will require further post hoc tests to find the differences between the various mean combinations. The post hoc test employed was Duncan's multiple range test.

The Pearson correlation test was employed to test whether there was a significant correlation in the daily number of confirmed cases between states in Malaysia. The Pearson correlation coefficient, also known as the Pearson product-moment correlation coefficient, was calculated as below (9):

$$r = \frac{cov_{xy}}{s_x s_y} = \frac{\sum(x_i - \bar{x})(y_i - \bar{y})}{(N-1)s_x s_y}$$

where is the standard deviation of the first variable, and is the standard deviation of the second variable. The -value lies between -1 and +1. A positive value indicates a positive correlation between the variables, while negative value indicates a negative correlation.

Results

Figures 1, 2, and 3 demonstrate the daily trend of number of new confirmed cases by phase, mean of confirmed cases by phase, and the mean of number of new confirmed cases per MCO. Examining national-level results, as per Table 1, there is a significant upward trend in cases pre-MCO and a significant downward trend during MCO 3. The mean of the confirmed case is highest in MCO 1 and 2, but there is no significant upward trend during that phase. There was a statistically significant difference in the number of daily cases between the phases as determined by one-way ANOVA ($F(4,69) = 28.567$, $p < .05$) (Table 2). A Duncan's multiple range post hoc test revealed that the average number of daily cases during three phases (i.e. pre MCO, MCO3, and MCO 4/5) was significantly lower as compared to the other two phases (i.e. MCO 1 and MCO 2) (Table 3).

Examining state-level results, as Table 4 suggests, there are downward trends noted for Johor for two consecutive MCO phases, namely MCO 3 and MCO 4/MCO 5, after an initial statistically significant upswing in MCO 1. Other states mostly did not demonstrate any prolonged downward trends, with most states either having no trend or single-MCO downward trends. Only Sarawak demonstrated a

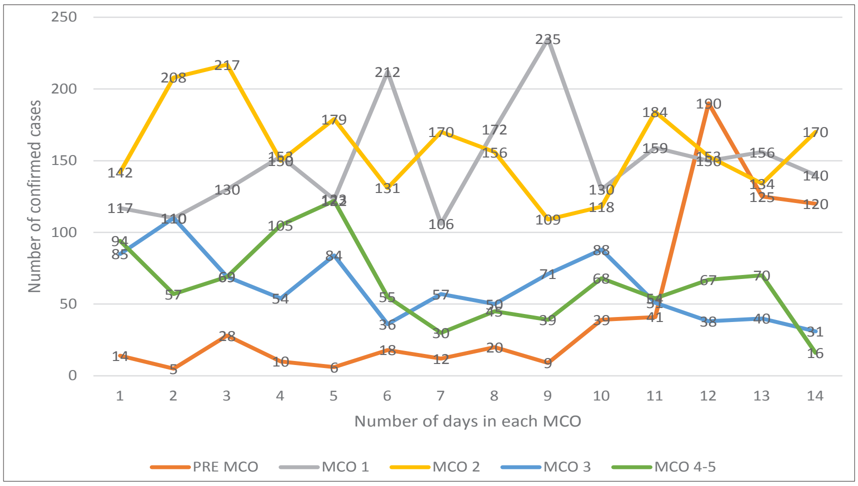

Figure 1: The daily trend of number of new confirmed cases by phase

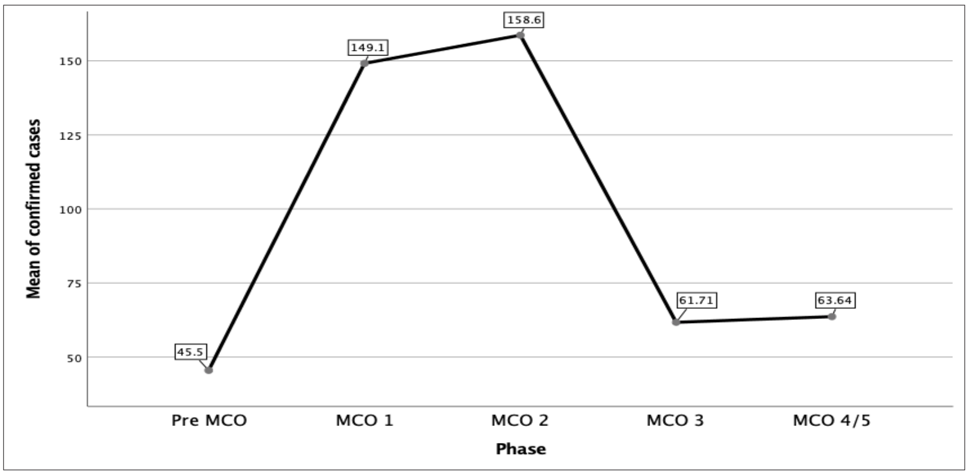

Figure 2: The mean of confirmed cases by phase

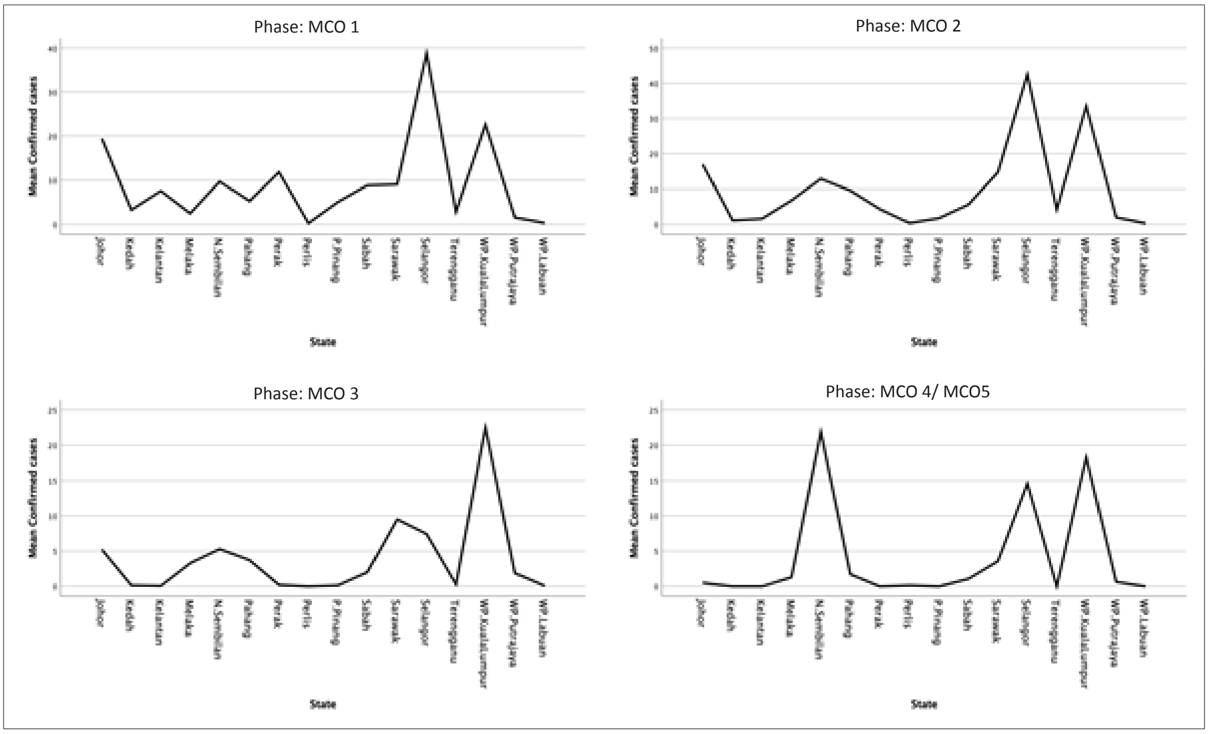

Figure 3: Mean of number of new confirmed cases during MCO 1, MCO 2, MCO 3, MCO4/MCO5

Table 1: The Mann-Kendall trend test results at national level for all phases

Phase	N	Tau	z-statistic	p-value	Result
Pre MCO	14	0.56	2.74	0.01	Upward trend*
MCO 1	14	0.27	1.26	0.21	No trend
MCO 2	14	-0.18	-0.82	0.41	No trend
MCO 3	14	-0.47	-2.30	0.02	Downward trend*
MCO 4/ MCO 5	14	-0.27	-1.31	0.19	No trend

* Trend is significant at the 0.05 level.

Table 2: The ANOVA result at the national level

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	161289.343	4	40322.336	28.567	.000
Within Groups	91746.5	65	1411.485		
Total	253035.843	69			

Table 3: Duncan's multiple range test result at the national level

		Subset for alpha = 0.05	
Phase	N	1	2
Pre MCO	14	45.5	
MCO 3	14	61.71	
MCO 4/5	14	63.64	
MCO 1	14		149.14
MCO 2	14		158.64
Sig.		0.234	0.506

Means for groups in homogeneous subsets are displayed.

downward trend in MCO 2. Two states (Johor and Pahang) demonstrated downward trends in MCO 3, whereas three states (Johor, Melaka and Selangor) demonstrated downward trends in MCO 4/MCO 5.

Inspecting Pearson correlations between state trends, Table 5 suggests that no clear trends emerge between states, except in MCO 2 where Kedah, Perlis and Kelantan are correlated with one another. Otherwise, there are individually significant correlations in other phases of MCO which do not carry forward to the subsequent MCOs as per Table 6.

Table 4: The Mann-Kendall trend test results at state level for all phases

State	MCO 1	MCO 2	MCO 3	MCO 4/ MCO5
Johor	Upward trend*	No trend	Downward trend*	Downward trend*
Kedah	Downward trend*	No trend	No trend	No new cases
Kelantan	No trend	No trend	No trend	No new cases
Melaka	No trend	No trend	No trend	Downward trend*
Negeri Sembilan	No trend	No trend	No trend	No trend
Pahang	No trend	No trend	Downward trend*	No trend
Perak	No trend	No trend	No trend	No trend
Perlis	No trend	No trend	No new cases	No new cases
Pulau Pinang	No trend	No trend	No trend	No new cases
Sabah	No trend	No trend	No trend	No trend
Sarawak	No trend	Downward trend*	No trend	No trend
Selangor	No trend	No trend	No trend	Downward trend*
Terengganu	No trend	No trend	No trend	No new cases
WP. Kuala Lumpur	No trend	No trend	No trend	No trend
WP. Putrajaya	No trend	No trend	No trend	No trend
WP. Labuan	No trend	No trend	No trend	No new cases

* Trend is significant at the 0.05 level.

Table 5: The ANOVA and Duncan's multiple range test results at state level for all phases

Test	Results			
	MCO 1	MCO 2	MCO 3	MCO 4/ MCO5
One way ANOVA	F(15,208)= 27.36*	F(15,208)= 34.28*	F(15,208)= 16.82*	F(15,208)= 10.53*
Duncan's multiple range test	States were grouped into 8 subsets	States were grouped into 6 subsets	States were grouped into 5 subsets	States were grouped into 3 subsets

* Significant at the 0.05 level.

Table 6: The Pearson correlation test results between states for all phases

State	State (Pearson coefficient)			
	MCO 1	MCO 2	MCO 3	MCO 4/ MCO5
Johor	Selangor (.752**)	WP. Putrajaya (.585*)	Sabah (.632*) Terengganu (.557*)	WP. Putrajaya (.684**)
Kedah	None	Kelantan (.557*) Perak (.903**) Perlis (.684**) Sabah (-.543*)	Pahang (.690**)	None
Kelantan	None	Kedah (.557*) Perak (.641*) Perlis (.616*)	N. Sembilan (.723**) Terengganu (.807**)	None
Melaka	N. Sembilan (.566*) WP. Labuan (.670**)	WP. K. Lumpur (-.549*)	WP. Putrajaya (.547*)	None
Negeri Sembilan	Melaka (.566*) Pahang (.565*) Sarawak (-.710**)	None	Kelantan (.723**) Terengganu (.822**)	None
Pahang	N. Sembilan (.565*)	WP. K. Lumpur (.544*) WP. Labuan (.581*)	Kedah (.690**)	Selangor (.562*)
Perak		Kedah (.903**) Kelantan (.641*) Perlis (.821**)	None	None
Perlis	Selangor (.547*) Terengganu (-.584*)	Kedah (.684**) Kelantan (.616*) Perak (.821**)	None	None
Pulau Pinang	Sabah (.755**) Terengganu (.668**)	None	None	None
Sabah	P. Pinang (.755**) Selangor (-.543*) Terengganu (.549*)	Kedah (-.543*)	Johor (.632*)	None
Sarawak	N. Sembilan (-.710**)	None	None	None
Selangor	Johor (.752**) Perak (.547*) Sabah (-.543*)	None	None	Pahang (.562*)
Terengganu	Perlis (-.584*) P. Pinang (.668**) Sabah (.549*)	None	Johor (.557*) Kelantan (.807**) N. Sembilan (.822**)	None
WP. Kuala Lumpur	WP. Putrajaya (.726**)	Melaka (-.549*) Pahang (.544*)	None	None
WP. Putrajaya	WP. K. Lumpur (.726**)	Johor (.585*)	Melaka (.547*)	Johor (.684**)
WP. Labuan	Melaka (.670**)	Pahang (.581*)	None	None

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

Discussion

These results illustrate quite clearly that statistically, the MCO appears to have worked within the projected duration of twice the proposed incubation period of COVID-19. Statistically significant differences between the number of new cases in the "second phase" (MCO 3-5) and "first phase" (MCO 1-2), coupled with a significant "downward trend" in MCO 3, suggest that the effect of the MCO on reducing the R0 of COVID-19 to below 2.5 appears to have worked well, in collaboration with all stakeholders namely members of the public and businesses in enforcing adequate social distancing.

In MCO 1, Kedah already demonstrated a significant downward trend and progressed to no cases by MCO3. This is similar to Perlis and Kelantan, the two other border states with Thailand, which both also had no new cases by MCO 3. This result is interesting as these states theoretically have porous land borders with Thailand, thus the risk of importation of cases is much higher through the free movement of people compared to other states in Malaysia which do not border any foreign countries or border foreign countries with natural barriers (Sabah and Sarawak) or tightly regulated immigration checkpoints (Johor). However, at the same time, Thailand also quickly flattened the curve, and they did not have a similar mass gathering event that unwittingly discharged high numbers of asymptomatic carriers back to their hometowns like in the Malaysian tabligh gathering (10).

Moreover, Kedah, Perlis and Kelantan did not have major international gateway airports; therefore, importation of cases from harder-hit European and Northern American countries could not occur. So, it can be concluded from the statistics underlying these three states' perceived speed in controlling their infection, that by MCO 1, it was clear that the risk of COVID-19 was higher among domestic community transmission rather than from land border foreign transmission. However, the tight control of land borders eliminated one other possibility of transmission, vastly reducing the burden on contact tracing teams and local COVID-19 treatment hospitals. This success by these three states should therefore be seen as another vindication of tight immigration regulations, and a celebration of both Malaysia and Thailand's success in flattening the epidemiological curve.

Looking at Johorean results, it was the only state to have a significant rise in MCO 1, most possibly owing to its proximity to Singapore, one of the countries to be hit first by COVID-19 from China importation (11). Also, when the Malaysian borders were locked down, Johor had a high number of expatriate workers in Singapore who would have had to return abruptly, most probably contributing to an anticipated surge in cases. Moreover, adding insult to injury, there was a Simpang Renggam cluster emerging during MCO 1 of an entire village contracting COVID-19 secondary to the tabligh cluster (12), which resulted in the nation's first enhanced MCO (EMCO) with full quarantine measures. The significant reductions in MCO 3 and MCO 4/ MCO 5 are highly likely to be secondary to the prompt and urgent measures taken by the Johor health authorities to combat both unavoidable risk factors, as evidenced by the EMCO being able to be lifted in the villages.

Sarawak also enjoyed a downward trend by MCO 3. This is also explainable because Sarawak was the recipient of a pre-MCO cluster related to an individual returning from Italy, who asymptomatically infected 37 others (13). Hence, the downward trend by MCO 3 corresponds with the projected two-week incubation period, taking into account a one to two-week delay due to asymptomatic cases only being picked up after aggressive contact tracing.

Selangor, after being the state with the highest number of cases during earlier MCOs, finally experienced a significant downturn in MCO 4/MCO 5. This is most probably related to various factors, all of which are indicative of the strength and resilience, rather than any weakness, in the Selangor health department management. The main Malaysian tertiary hospital for COVID-19, Hospital Sungai Buloh, is technically located within the Selangor state. The Kuala Lumpur International Airport is also located in Selangor, and this would contribute to artificially high numbers as all incoming cases screened and sampled for COVID-19 would be tabulated under Selangor, irrespective of the actual origin state. Moreover, Selangor, as a highly industrialised state and at the peripheries of the national capital, has a higher population and population density. Hence, all these factors may conspire to increase the Selangor cases, and it is a credit to the Selangor health service that despite all these non-modifiable obstacles, they managed to achieve a significant reduction in cases by MCO 4/ MCO 5, thus vindicating their re-entry to the conditional MCO around the tail end of this particular time period.

On a related note, examining Pearson correlations between state trends, no clear trends emerge between states, except in MCO 2 where Kedah, Perlis and Kelantan are correlated with one another. These are all states with quickly declining numbers, as mentioned above, so it is expected that these states would covary with each other.

The overall results provide more detailed explanations and analysis of the Malaysian efforts to reduce the R0 compared to merely observing linear changes on descriptive scales. Malaysia instituted strict movement control measures, akin to lockdown measures in China and European countries, but with somewhat more freedom, on 18 March 2020, a mere nine days after the first information was received regarding the tabligh cluster, and within a week of the case numbers exponentially rising. This compares to many European countries which only instituted lockdown measures a few weeks after cases began to rise, by which point the public health system was overwhelmed with the volume of contact tracing, leading to knock-on effects on overwhelmed and underprepared hospital systems (14).

This is consistent with findings that apart from Taiwan and South Korea, many countries that have flattened the curve in an expedited manner so far, e.g. Eastern European nations, Greece, Vietnam, Thailand and Malaysia, have done so using public health measures such as prompt lockdowns and aggressive contact tracing, as these nations have concerns that their existing tertiary healthcare systems would not have the capacity needed to deal with high-level community transmission of COVID-19. As Malaysia uniquely has a federated state system, with semi-autonomous state health departments, it is possible to compare statistics between states with significant populations and significantly different demographics. It is hence heartening to see that the states that were more adversely affected in early MCO were also the same states that demonstrated statistically significant reductions in later MCOs.

As Malaysia moves forward into the end of its recovery MCO (RMCO) which was initiated on 10 June 2020, a month after the beginning of the CMCO Conditional MCO (CMCO) that was implemented in the latter part of MCO 4/MCO 5, preliminary investigations suggest that Malaysia has successfully flattened the curve and brought the R0 to below reproductive levels (15). However, as standard operating procedures for social distancing continue to be imposed and flouted, it gradually appears that small clusters in various states that were initially deemed COVID-19 free, for instance, Penang, Kedah and Perlis, have resulted in lockdowns of varying magnitudes having to be imposed regionally in these areas, raising fears of a potential second wave (16). Even though these fears have yet to materialise, nevertheless, the unpredictability of the COVID-19 pandemic once again underscores the urgent need to utilise big data analysis to forecast trends and put into place prophylactic public health measures upon successful mathematical modelling of upcoming trends, for forewarned is forearmed.

The limitations of this study are that detailed line listings were not available from respective State Health Departments, so further analysis using detailed sociodemographic data was not possible. Instead, national statistics were extracted, and analysis performed based on gross figures. Also, there were imperceptible but significant changes in movement allowed for MCO 4/MCO 5, for instance, certain businesses were allowed to reopen in MCO 4/MCO 5, and certain states were able to enjoy more freedom of movement and business under the CMCO. However, not all states transitioned to the CMCO. Hence certain states only implemented the freedom of movement and business slightly later. Therefore the changes in case numbers during MCO 5 may be affected slightly by that variable.

Conclusion

This study shows that the MCO in Malaysia overall has attained its objective of partially flattening the epidemiological curve within the stipulated time. Unlike countries like Australia and New Zealand, which benefit from the unexpected perks of geographical isolation, and Taiwan and South Korea, which benefit from both previous knowledge and experience of the SARS pandemic, and a longer established public healthcare system, Malaysia has had to deal with the COVID-19 pandemic despite three major factors against it: its position as a major air travel and transport hub in South East Asia; the presence of a hitherto undetected cluster that spread undetected for nine days; and the difficulty in restricting the importation of cases due to the high numbers of Malaysian expatriates in neighbouring countries, and other countries' expatriates working in Malaysia. Given these restrictions, this study demonstrates that within a reasonable time frame of two incubation periods, for most states in Malaysia, and nationally, significant changes in new cases have emerged by MCO 3 and MCO 4/MCO 5. It is hoped that this trend will continue as Malaysia aims to attain a long-term reduction of R0 to below 1, creating epidemiological conditions for the pandemic to cease transmission.

Competing interests

The authors declare that they have no competing interests.

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Supplementary Table 1: Daily case numbers for each state in Malaysia from 18 March to 12 May 2020

Date	PHASE	JOHOR	KEDAH	KELANTAN	MELAKA	NEGERI SEMBILAN	PAHANG	PULAU PINANG	PERAK	PERLIS	SABAH	SARAWAK	SELANGOR	TERENGGANU	WP KUALA LUMPUR	WP PUTRAJAYA	WP LABUAN	MALAYSIA
18-Mar-20	MCO 1	11	5	5	1	0	1	7	5	0	21	20	31	3	6	1	0	117
19-Mar-20	MCO 1	13	4	14	2	10	3	2	7	1	9	2	31	1	4	1	0	104
20-Mar-20	MCO 1	13	1	7	2	10	4	5	10	0	7	7	40	9	16	0	0	131
21-Mar-20	MCO 1	15	6	10	0	5	1	13	10	0	17	10	29	7	27	3	0	153
22-Mar-20	MCO 1	16	5	2	1	8	3	8	11	0	22	8	17	5	17	0	0	123
23-Mar-20	MCO 1	13	7	8	2	16	16	8	15	0	11	2	45	6	59	4	0	212
24-Mar-20	MCO 1	4	5	7	6	15	0	2	17	0	1	5	27	0	15	2	0	106
25-Mar-20	MCO 1	34	5	6	2	14	8	2	30	1	0	2	54	0	13	1	0	172
26-Mar-20	MCO 1	43	3	10	0	9	2	4	23	0	2	10	75	1	51	2	0	235
27-Mar-20	MCO 1	20	1	4	0	6	4	6	8	0	10	15	36	2	16	2	0	130
28-Mar-20	MCO 1	26	1	10	9	15	14	6	6	0	15	8	33	4	7	0	5	159
29-Mar-20	MCO 1	24	1	15	1	9	12	1	11	0	0	11	33	2	28	2	0	150
30-Mar-20	MCO 1	24	2	4	7	10	3	1	8	1	4	6	60	0	24	2	0	156
31-Mar-20	MCO 1	16	0	4	2	9	3	6	5	1	5	21	32	0	34	2	0	140

Supplementary Table 1: Daily case numbers for each state in Malaysia from 18 March to 12 May 2020 (continued)

Date	PHASE	JOHOR	KEDAH	KELANTAN	MELAKA	NEGERI SEMBILAN	PAHANG	PULAU PINANG	PERAK	PERLIS	SABAH	SARAWAK	SELANGOR	TERENGGANU	WP KUALA LUMPUR	WP PUTRAJAYA	WP LABUAN	MALAYSIA
1-Apr-20	MCO 2	19	2	3	11	8	9	2	5	0	3	32	22	1	25	0	0	142
2-Apr-20	MCO 2	27	1	3	7	18	3	2	6	0	1	23	74	2	33	8	0	208
3-Apr-20	MCO 2	21	1	0	3	4	13	0	5	0	5	28	63	18	55	1	0	217
4-Apr-20	MCO 2	6	0	2	2	9	24	1	2	0	10	7	27	6	52	1	1	150
5-Apr-20	MCO 2	16	1	2	14	11	7	2	6	1	13	15	53	10	27	1	0	179
6-Apr-20	MCO 2	30	3	1	10	8	3	0	6	0	2	12	27	6	18	4	1	131
7-Apr-20	MCO 2	10	5	5	4	22	5	1	14	4	1	15	50	0	31	2	1	170
8-Apr-20	MCO 2	18	1	0	13	9	3	6	4	0	7	18	58	3	14	2	0	156
9-Apr-20	MCO 2	7	2	1	3	11	14	0	4	0	0	6	40	5	14	2	0	109
10-Apr-20	MCO 2	20	0	1	14	11	4	1	1	0	2	15	30	3	14	2	0	118
11-Apr-20	MCO 2	21	0	2	8	17	27	5	1	0	10	7	35	1	46	2	2	184
12-Apr-20	MCO 2	14	0	1	3	9	11	2	1	0	6	8	53	0	44	1	0	153
13-Apr-20	MCO 2	21	0	2	0	42	0	0	3	0	14	6	13	4	27	2	0	134
14-Apr-20	MCO 2	8	0	0	3	2	11	3	3	1	5	15	50	0	69	0	0	170

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15-Apr-20	MCO 3	14	1	0	0	1	17	0	0	0	0	8	17	0	27	0	0	85
16-Apr-20	MCO 3	13	0	1	0	26	8	0	1	0	3	16	13	2	26	1	0	110
17-Apr-20	MCO 3	9	0	0	1	13	1	0	1	0	5	10	9	0	19	0	1	69
18-Apr-20	MCO 3	16	0	0	0	3	2	0	0	0	10	6	2	1	14	0	0	54
19-Apr-20	MCO 3	3	0	0	37	0	5	0	0	0	3	5	3	0	19	9	0	84
20-Apr-20	MCO 3	2	0	0	2	3	2	0	0	0	2	6	2	0	4	13	0	36
21-Apr-20	MCO 3	1	0	0	1	1	8	0	0	0	0	22	11	0	13	0	0	57
22-Apr-20	MCO 3	3	1	0	1	2	6	0	0	0	0	19	1	0	16	1	0	50
23-Apr-20	MCO 3	3	0	0	0	20	1	0	0	0	1	4	12	1	29	0	0	71
24-Apr-20	MCO 3	4	0	0	3	2	1	0	0	0	2	9	18	0	49	0	0	88
25-Apr-20	MCO 3	0	0	0	0	0	1	0	0	0	0	10	1	0	39	0	0	51
26-Apr-20	MCO 3	4	0	0	1	1	0	2	0	0	0	7	6	0	16	1	0	38
27-Apr-20	MCO 3	0	0	0	0	1	0	0	1	0	1	3	4	0	30	0	0	40
28-Apr-20	MCO 3	1	0	0	0	1	0	0	0	0	1	8	5	0	14	1	0	31

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30-Apr-20	MCO 4	3	0	0	5	5	1	0	0	0	0	5	27	0	10	1	0	57
1-May-20	MCO 4	3	0	0	1	0	3	0	0	0	0	2	24	0	32	4	0	69
2-May-20	MCO 4	1	0	0	2	8	8	0	0	0	0	9	63	0	14	0	0	105
3-May-20	MCO 4	0	0	0	3	71	0	0	0	0	1	5	11	0	30	1	0	122
4-May-20	MCO 4	0	0	0	3	6	0	0	0	0	0	0	21	0	25	0	0	55
5-May-20	MCO 5	0	0	0	0	0	0	0	0	0	0	2	5	0	23	0	0	30
6-May-20	MCO 5	0	0	0	1	2	0	0	0	0	0	11	9	0	22	0	0	45
7-May-20	MCO 5	0	0	0	1	0	0	0	0	0	1	1	16	0	20	0	0	39
8-May-20	MCO 5	0	0	0	0	53	1	0	0	0	0	1	6	0	6	1	0	68
9-May-20	MCO 5	0	0	0	1	28	0	0	0	0	0	4	10	0	10	1	0	54
10-May-20	MCO 5	0	0	0	0	45	2	0	2	0	0	1	8	0	9	0	0	67
11-May-20	MCO 5	0	0	0	1	16	4	0	0	0	10	0	3	0	35	1	0	70
12-May-20	MCO 5	0	0	0	0	0	0	0	0	0	1	3	0	0	12	0	0	16