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Assessment Public Interest towards COVID-19 during Movement Control Order in Malaysia

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Abstract: *In Malaysia, research on the public interest in COVID-19 are lacking. Using Google TrendsTM (GT) data, this study aimed to explore public interest toward covid-19 during the early time of Movement Control Order (MCO) and the practice of social distancing among Malaysian in combating COVID-19. A GT search for "COVID-19' was performed and the Relative Search Volume (RSV) were compared to the number of reported COVID-19 cases, deaths and social distancing data. Malaysia reach its full public interest when the first deaths of COVID-19 were reported, approximately one day before the MCO. The trend was fluctuating until it started to drop drastically at the end of MCO Phase 1 and continued to decline until the end of Conditional MCO (CMCO). During the Pre-MCO, significant correlations exist between daily cases, daily deaths and GT. Social distancing data were significantly correlated with GT during the Pre-MCO indicating increased public awareness on the preventive measure before the start of MCO. Public interest measurement using GT can help to monitor the progression of COVID-19 in Malaysia. Continuous effort to create awareness and sustaining the public interest is a necessity to control the COVID-19 transmission.*

Keywords: coronavirus, infodemiology, social distancing

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1. Introduction

Coronavirus disease 2019 (COVID-19) first occurred in Wuhan, Hubei Province, China, in December 2019. It was caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (He, Deng, & Li, 2020). Since then, COVID-19 has rapidly spread worldwide, causing the World Health Organization (WHO) to declare it as a pandemic on March 11, 2020. Until now, COVID-19 is still continuously spreading to over 200 countries. As of August 12, 2020, there are 19,936,210 confirmed cases globally, including 732,499 deaths (WHO, 2020b).

In Malaysia, until June 5, 2020, COVID-19 occurred in two waves. The first wave, which occurred between January 24 and February 15, amounted to 22 cases, consisting mainly of infected individuals that arrived from China. The second wave began on February 27, establishing community transmission (WHO, 2020a). Following the rapid increase in active cases in the second wave, the Malaysian government ordered a Movement Control Order (MCO) Phase 1 beginning on March 18, 2020, under the Prevention and Control of Infectious Diseases Act 1988 and the Police Act 1967. As the cases were gradually increasing, MCO was extended to Phase 2, Phase 3, and then Phase 4, with each having a duration of 2 weeks. During the MCO, mass movements and gatherings were prohibited across the country, and all houses of worship and business premises were closed, except for stores selling necessities. In addition, schools, universities, government, and private offices were closed, except for those involved in providing essential services. Overseas and inter-state travels were prohibited, and entry of all tourists and foreign visitors into the country was restricted. As the number of daily cases and active cases of COVID-19 reduced in mid-April, Conditional MCO (CMCO) was announced to be started on May 4, 2020, until June 9, 2020. Most economic sectors were allowed to operate and economic activities to continue with strict standard operating procedures. However, mass gatherings and inter-state traveling were still prohibited.

The Internet is increasingly used as a source of information. Over the last decade, people's interest in obtaining information about health through the Internet has increased (Fox, 2005). As a major source of information, people search the Internet for information during a public health crisis, which can significantly influence their behavioral responses to such a crisis. Public interest in certain outbreaks can be assessed by analysis of the Internet search volume; Google Trends (GT) is one of the most widely used website for the analysis (Arora, McKee, & Stuckler, 2019; Lim, Ong, Xie, & Low, 2020; Ling & Lee, 2016). Previously, other digital epidemiological studies, including search volume analysis, have been employed for real-time analyses of the transmissibility, severity, and natural history of other novel pathogens, such as severe acute respiratory syndrome (SARS) and Ebola (Chowell et al., 2009; Cleaton, Viboud, Simonsen, Hurtado, & Chowell, 2015). The findings were useful for developing antivirals and vaccines as the focus was often on medical countermeasures of an outbreak. Moreover, GT analysis can also be employed to develop other counter measures, including social distancing (Rivers et al., 2019). Therefore, this study aimed to explore public interest in COVID-19 during the time of MCO in Malaysia using GT and the practice of social distancing among Malaysians to combat COVID-19.

2. Method

Malaysia COVID-19 data

Publicly available official materials for and information on COVID-19 released by the Malaysian Ministry of Health (kpkesihatan.com) were reviewed. The numbers of confirmed cases and deaths were obtained from the website from March 4 to June 5, 2020. The timeline marked the start of 2 weeks before the implementation of MCO Phase 1 (pre-MCO) and end of CMCO.

Google Trends data

GT is a publicly available web-based tool, which provides the number of relative searches within a certain region or globally for a particular query (support.google.com/trends). It allows users to gain an understanding of what the general population is searching for using Google's search engine. To perform more accurate comparisons between queries, the data obtained from GT is normalized against the total search volume, and the repetitive searches performed by the same user in a short time are automatically eliminated (Hilbert & López, 2011). Rather than providing the absolute row search figures for statistical analyses, GT presents the relative search volume (RSV) instead. The data collected from GT is adjusted to the time and location, so the comparisons between queries can be easier. The results can be downloaded in the comma-separated values (.csv) format, which displayed on a scale value ranged from 0 to 100. The highest score, which is 100, represents the highest relative search term activity for the specified search query in the time period of interest (Shariatpanahi et al., 2017). The GT data in this study were obtained from March 4 to June 5, 2020, using the search term “COVID-19,” specified at the levels of country (Malaysia), state, and federal territory. The search term was chosen after detailed review of possible term including “Coronavirus”, “Covid” and “SARS-CoV’. The review revealed that COVID-19 term was the most searched term.

Social Distancing Data

Social distancing data was obtained from a publicly available web-based tool and measured based on how human mobility has changed relative to background levels for each location (http://www.healthdata.org/). Mobility refers to the movement of a population and is based on anonymous cellphone data made available by several technology companies for the purpose of fighting COVID-19. The data are expressed in percentages, with the highest percentage indicating better social distancing practice. These mobility patterns have changed as the social distancing measure has been implemented and/or eased. Individual decision-making also influences the mobility patterns, as individuals in certain locations choose to increase or decrease their movement regardless of the government mandates (IHME, 2020). The social distancing data in Malaysia was obtained from the website from March 4 to June 6, 2020.

Data analysis

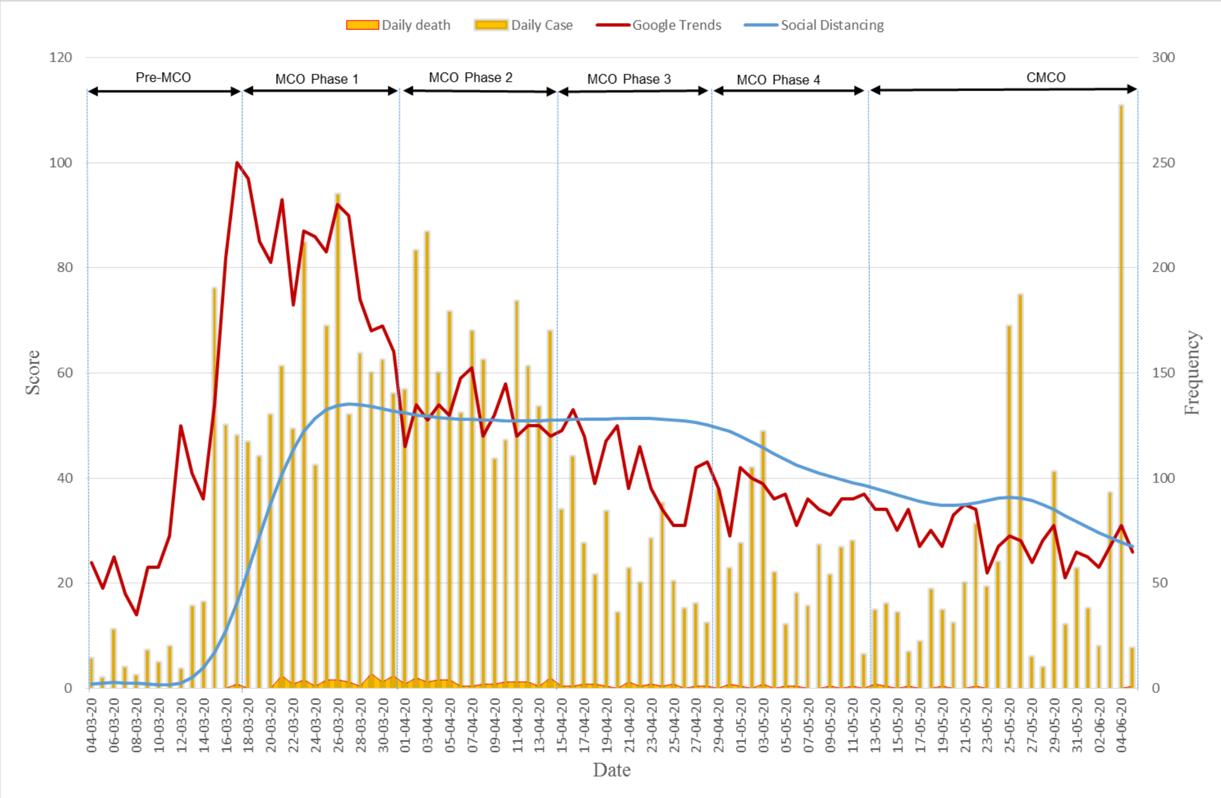
The numbers of COVID-19 cases and deaths and GT and social distancing data were plotted against time using Microsoft Excel. Descriptive statistics were presented in the form of mean and standard deviations. A Spearman correlation was employed to compare the numbers of confirmed cases and deaths and the GT and social distancing scores. Spearman's correlation coefficient is a nonparametric (distribution-free) rank statistic for evaluating the strength of monotone association between two independent variables, particularly in exploratory studies (Gautheir, 2001). Compared with Pearson's correlation coefficient, Spearman's correlation coefficient operates on the ranks of the data rather than the raw data, and it does not require the relationship between variables to be linear. By using the Spearman correlation, one could robustly compare two Spearman rho values, much like the Pearson values utilizing the Fisher z-transformation (Myers & Sirois, 2006). Since it is based on the ranks of the data, it can well represent the similarity of the trend of the time series (Ye, Xiao, Esteves, & Rong, 2015). The Spearman correlation has been widely employed in examining the trend of COVID-19 since the emergence of this disease (Hou et al., 2020; Kutlu, 2020), and it was shown to be highly accurate (Hou et al., 2020; Ison, 2020). Correlation coefficient (ρ) was used to evaluate the correlation strength, and significance level was set to 0.05.

For the comparison of the GT and social distancing scores across the MCO phases, analysis of variance (ANOVA) coupled with Welch's test was employed. Under the conditions of violated assumption of normality and equal variance, ANOVA coupled with Welch's test demonstrated more statistical power and outperformed the classical test in terms of Type 1 error compared with classical ANOVA (Delacre, Leys, Mora, & Lakens, 2019). Due to the nature of the time series and less number of observations in the MCO phases, which resulted in the violation of equal variance, ANOVA coupled with Welch's test provided a more powerful solution compared with classical ANOVA and nonparametric test, such as the Kruskal–Wallis test (Delacre et al., 2019). For significant a Welch test, a pairwise comparison using the Games–Howell *post hoc* test was performed to identify significant group differences. The Games–Howell *post hoc* test, like Welch's test, does not require the groups to have equal standard deviations (Lee & Lee, 2018). All analyses were conducted using the IBM SPSS Statistics for Windows (Version 21.0).

3. Results

Figure 1 presents the sequence chart for the numbers of COVID-19 daily cases and deaths as well as GT and social distancing scores. The “COVID-19” search exhibited an increasing trend during the pre-MCO period (March 4 to March 18] and reached the highest score (100) on March 17, the day that Malaysia recorded the first two deaths due to COVID-19. During MCO Phase 1, the trend reached the second peak (93) and third peak (93) on March 21 and 26, respectively. At the beginning of MCO Phase 2, the trend exhibited a huge drop on April 1. Even though the trend increased after that, it started to decline on April 8. The declining trend continued until the end of the CMCO (June 5).

The social distancing score exhibited an increasing trend during the pre-MCO and peaked near the end of MCO Phase 1 (54.0% on March 27). The score (50.1%–53.9%) has been consistent until the end of MCO Phase 3. The trend then steadily declined until the end of the CMCO.



MCO = Movement Control Order, CMCO = Conditional Movement Control Order
Figure 1: GT RSV (0-100) of the keyword COVID-19 in Malaysia and social distancing score (0-100%) graphed over time and during the period of rising COVID-19 cases.

The mean GT score from March 3 to June 5 was 44.57 (standard deviation = 20.49). The Spearman correlation results revealed a significant positive correlation among the numbers of COVID-19 daily cases and daily deaths, social distancing, and GT data. The correlation coefficients ranged from 0.59 to 0.70. Results also revealed negative correlations between the numbers of COVID-19 total cases, total deaths and GT data, with correlation coefficients of −0.51 and −0.53, respectively. The results of the Spearman correlation are presented in Table 1.

Table 1: Spearman correlation coefficient between COVID-19 cases and deaths, social distancing and Google Trends data in Malaysia

Variable	Google Trends	
	ρ	p-value
Mean (S.D.)	44.57(20.49)	
Daily case	0.70	**<0.001**
Total case	-0.48	**<0.001**
Daily death	0.59	**<0.001**
Total death	-0.50	**<0.001**
Social distancing score	0.59	**0.002**

ρ = Spearman correlation coefficient, S.D. = Standard deviation

Table 2 presents the correlation between the numbers of daily cases, total cases, daily deaths, and total deaths and GT data across Malaysian states and federal territories as revealed by the Spearman correlation results. Moreover, the results revealed a significant positive correlation between the numbers of daily cases and daily deaths and GT data in all states and federal territories (0.25–0.64) except for Labuan and a significant correlation between the numbers of total cases and total deaths and GT among all federal territories, except for Labuan and Putrajaya.

Table 2: Correlation between COVID-19 cases, deaths and Google Trends data in the Malaysian states and federal territories.

States	GT Mean (S.D.)	Daily cases		Total cases		Daily deaths		Total deaths	
		ρ	p-value	ρ	p-value	ρ	p-value	ρ	p-value
Johor	38.61 (19.96)	0.53	**<0.001**	-0.25	**<0.001**	0.54	**<0.001**	-0.27	**0.005**
Kedah	29.38 (18.71)	0.43	**<0.001**	-0.34	**<0.001**	0.31	**<0.001**	-0.34	**<0.001**
Kelantan	29.83 (20.38)	0.31	**0.004**	-0.34	**<0.001**	0.25	**0.005**	-0.34	**<0.001**
Malacca	46.83 (20.04)	0.52	**<0.001**	-0.38	**<0.001**	0.38	**<0.001**	-0.38	**<0.001**
Negeri Sembilan	41.67 (21.05)	0.55	**<0.001**	-0.28	**<0.001**	0.45	**<0.001**	-0.29	**<0.001**
Pahang	33.29 (17.22)	0.47	**<0.001**	-0.19	0.062	0.33	**<0.001**	-0.20	**0.053**
Penang	41.88 (18.00)	0.50	**<0.001**	-0.40	**<0.001**	0.41	**<0.001**	-0.41	**<0.001**
Perak	43.36 (21.47)	0.57	**<0.001**	-0.26	**0.011**	0.44	**<0.001**	-0.28	**0.007**
Perlis	18.39 (26.22)	0.34	**0.001**	-0.23	**0.023**	0.26	**0.012**	-0.24	**0.020**
Sabah	35.12 (19.35)	0.46	**<0.001**	-0.41	**<0.001**	0.47	**<0.001**	-0.42	**<0.001**
Sarawak	30.32 (19.29)	0.62	**<0.001**	-0.45	**<0.001**	0.44	**<0.001**	-0.46	**<0.001**
Selangor	43.63 (21.10)	0.64	**<0.001**	-0.57	**<0.001**	0.54	**<0.001**	-0.59	**<0.001**
Terengganu	35.22 (22.47)	0.35	**0.001**	-0.40	**<0.001**	0.25	**0.010**	-0.40	**0.001**
Kuala Lumpur	44.56 (18.63)	0.64	**<0.001**	-0.41	**<0.001**	0.47	**<0.001**	-0.43	**<0.001**
Labuan	13.33 (20.26)	0.15	0.154	-0.16	0.105	0.08	0.432	-0.16	0.121
Putrajaya	22.25 (22.28)	0.48	**<0.001**	-0.19	0.063	0.47	**<0.001**	-0.19	0.067

S.D. = Standard deviation, ρ = Spearman's correlation coefficient, GT = Google Trends.

Table 3 presents the correlation among the numbers of COVID-19 daily cases, total cases, daily deaths, and total deaths, social distancing, and GT data in the different MCO phases as revealed by the Spearman correlation results. Also, the results revealed a significant positive correlation among the numbers of COVID-19 cases and deaths, social distancing, and GT during the pre-MCO. Moreover, a negative correlation was observed between the numbers of COVID-19 total cases and deaths and GT during MCO Phase 1, MCO Phase 3, and CMCO.

Table 3: Correlation coefficient between COVID-19 cases and deaths, social distancing and Google Trends data in Malaysia for pre-MCO; MCO Phase 1; MCO Phase 2, MCO Phase 3; MCO Phase 4; CMCO.

MCO Phase	Daily case		Total case		Daily death		Total death		Social distancing	
	ρ	p-value	ρ	p-value	ρ	p-value	ρ	p-value	ρ	p-value
Pre-MCO	0.79	**0.002**	0.83	**<0.001**	0.45	0.108	0.45	0.108	0.73	**0.003**
Phase 1	-0.02	0.952	-0.61	**0.021**	-0.21	0.478	-0.57	**0.031**	-0.26	0.375
Phase 2	-0.17	0.565	-0.23	0.437	-0.12	0.694	-0.23	0.437	-0.18	0.550
Phase 3	0.19	0.507	-0.67	**0.009**	-0.29	0.319	-0.67	**0.008**	0.10	0.725
Phase 4	0.43	0.119	-0.32	0.264	-0.17	0.571	-0.33	0.246	0.32	0.264
CMCO	0.25	0.231	-0.56	**0.004**	0.39	0.059	-0.57	**0.004**	0.39	0.057

ρ = Spearman's correlation coefficient, MCO = Movement Control Order, CMCO = Conditional Control Movement Order

Upon assessment of the assumptions of ANOVA, the results revealed a significant Levene's test (homogeneity of variance) indicated violation of equal variance. Thus, ANOVA coupled with Welch's test and the Games–Howell *post hoc* test for pairwise comparison was conducted. Table 4 presents the results of the multiple comparisons test using ANOVA coupled with Welch's test and the Games–Howell *post hoc* test of GT and social distancing in the MCO phases. The MCO Phase 1 GT mean score was shown to be significantly higher compared with those in other MCO phases. The MCO Phase 2 GT mean score was shown to be significantly higher than those in MCO Phase 3, Phase 4, and CMCO. Moreover, the CMCO GT mean score was significantly lower than those in MCO Phase 1, Phase 2, and Phase 3.

The comparison results of the social distancing scores between MCO phases revealed significant differences between the pre-MCO mean score and the scores of other MCO phases. The social distancing score in the pre-MCO Phase was significantly lower compared with those in other MCO phases. The MCO Phase 4 mean score was significantly lower than that in Phase 2. Furthermore, the CMCO mean score was significantly lower than those in MCO Phase 1, Phase 2, Phase 3, and Phase 4 (Table 4).

Table 4: Post-hoc test results for comparison of Google Trends data between the MCO phases in Malaysia

MCO Phase	Google Trends Score			Social distancing		
	M.D.	95% CI	p-value[a]	M.D.	95% CI	p-value[a]
Phase 1- Pre-MCO	43.14	19.68 66.61	**<0.001**	42.84	33.13, 52.55	**<0.001**
Phase 2- Pre-MCO	13.79	-8.92, 36.49	0.392	47.87	43.65, 52.08	**<0.001**
Phase 3- Pre-MCO	3.64	-19.30, 26.59	>0.95	47.63	43.42, 51.84	**<0.001**
Phase 4- Pre-MCO	-2.43	-25.07, 20.21	>0.95	40.14	35.16, 45.12	**<0.001**
CMCO- Pre-MCO	-9.85	-32.47, 12.78	0.706	30.58	26.11, 35.05	**<0.001**
Phase 2- Phase 1	-29.36	-38.97, -19.75	**<0.001**	5.03	-4.21, 14.26	0.496
Phase 3- Phase 1	-39.50	-49.92. -29.08	**<0.001**	4.80	-4.43, 14.03	0.541
Phase 4- Phase 1	-45.57	-54.98, -36.16	**<0.001**	-2.70	-12.20, 6.81	0.938
CMCO- Phase 1	-52.99	-62.35, -43.63	**<0.001**	-12.26	-21.59, -2.93	**0.007**
Phase 3- Phase 2	-10.14	-17.17, -3.12	**0.002**	-0.23	-0.24, 0.69	0.654
Phase 4- Phase 2	-16.21	-20.91, -11.52	**<0.001**	-7.72	-11.04, -4.40	**0.001**
CMCO- Phase 2	-23.63	-28.16, -19.10	**<0.001**	-17.28	-19.27, -15.29	**<0.001**
Phase 4- Phase 3	-6.07	-18.98, 6.84	0.088	-7.49	-10.81, -4.18	**<0.001**
CMCO- Phase 3	-13.49	-20.09, -6.89	**<0.001**	-17.05	-19.03, -15.07	**<0.001**
CMCO- Phase 4	-7.42	-11.18, -3.65	**<0.001**	-9.56	-13.22, -5.90	**<0.001**

MCO = Movement Control Order, CMCO = Conditional Movement Control Order, M.D. = Mean difference, 95% CI = 95% Confidence Interval.

[a]Comparison using ANOVA with Welch test and pairwise comparison using Games-Howell post-hoc test.

4. Discussion

Using the GT data, the current study results revealed an increase in the public interest of Malaysians before the MCO and a decrease during MCO Phase 1. Then, it slowly decreased in the following phases. On March 17, the announcement of two death cases coincided with the highest GT data (RSV = 100), indicating that the Malaysian public had high interest in COVID-19. On March 21, the Malaysian public demonstrated an increased interest in COVID-19 (RSV = 93) after six deaths were reported, 4 days after the announcement of the first two deaths (Elengoe, 2020). The same increasing trend was also observed (RSV = 92) on March 26, the time when Malaysia reported the highest number of confirmed cases ever (235 confirmed cases) .22 The public interest in COVID-19 increased with the increase in the number of COVID-19 cases and deaths, indicating that the public was aware of the severity of COVID-19 in Malaysia. The increases might have also been influenced by the government's implementation of MCO Phase 1 as a containment and mitigation strategy.

Significant correlations were observed among COVID-19 cases, deaths, and GT data. The numbers of daily cases and daily deaths were shown to be positively correlated with the GT data. This indicates that the public interest in COVID-19 increased as more cases were discovered and deaths were reported. This correlation highlights the importance of COVID-19 diagnostic testing. The public interest was largely influenced by diagnostic testing, in which the delay in diagnostic testing might have delayed the public interest (Husain et al., 2020). The COVID-19 detection in Malaysia has been powered by diagnostic capacity and efficiency. The correlation analysis between the numbers of total cases and total deaths and the GT data revealed negative correlations. These results were expected as total case and total deaths were cumulative frequency which is monotonous compared with the numbers of daily cases and daily deaths, which were real-time frequency based on daily basis (Mavragani, 2020). The GT data across the different states and federal territories in Malaysia revealed that Malacca had the highest public interest in COVID-19 (46.83), followed by Kuala Lumpur (44.56) and Selangor (43.63). Significant correlations were observed between the numbers of COVID-19 daily cases and daily deaths and GT data among the states and federal territories except for Labuan and Putrajaya. The low numbers of reported COVID-19 cases in these two federal territories might have contributed to these results (DOSM, 2020).

One of the interesting findings in this study was the strong positive correlations between the numbers of COVID-19 cases and deaths and the GT data during the pre-MCO Phase. This phenomenon might have been enhanced by the increase in the dissemination of COVID-19 information by the health authorities to the public during this pandemic On March 11, 2020, confirmed cases from a mass religious gathering, known as the “tabligh” cluster, were recorded (Elengoe, 2020). The news spread nationwide as the health authorities requested the participants of the gathering to show up for COVID-19 screening. The COVID-19 information was quickly disseminated among the public through social media, such as WhatsApp and Facebook (Yusof, Muuti, Ariffin, & Tan, 2020). In addition, the surge of COVID-19 cases in other countries, such as Italy and Iran, might have contributed to the increase in the Malaysian public interest in COVID-19 during the pre-MCO Phase (BBC News, 2020).

The results of the post hoc multiple comparisons test of the RSV GT data of the MCO phases revealed significant mean differences between MCO Phase 1 and other MCO phases, in which the mean of RSV was higher during MCO Phase 1 compared with those in other phases. It was an expected finding as the implementation of MCO Phase 1 was the first strategy of the government to reduce the spread of COVID-19 (Elengoe, 2020). The public obtained information on COVID-19 from the Internet due to the rapid increase in the number of confirmed cases and deaths (Yusof et al., 2020). The RSV mean during the CMCO phase was shown to be significantly lower compared with those in Phase 3, Phase 2, Phase 1, and pre-MCO. At the start of MCO Phase 4, as the government was able to control the COVID-19 pandemic, restrictions on public movement had been slowly lifted. During the CMCO phase, major businesses were allowed to operate under standard operating procedures (Elengoe, 2020). This might have contributed to the decreased public interest in COVID-19 as they felt that the pandemic was under control and their curiosity toward COVID-19 had been reduced.

Upon the assessment of social distancing, the data revealed that social distancing drastically improved during MCO Phase 1 due to the strict movement restrictions imposed by the government. The social distancing trend had been consistent until the end of MCO Phase 3 and started to decline at the beginning of MCO Phase 4 until the CMCO phase. From Phase 2 to Phase 3, the movement restrictions were strictly enforced due to the noncompliance of the public during Phase 1 (Kaos & Rahimy, 2020). Fines were imposed, and those who violated the restriction rules were arrested (Daim, 2020). The Malaysian government easing the movement restrictions during Phase 4 and CMCO might have contributed to the decline in the social distancing score. An interesting finding from this study was the significant positive correlation of the RSV GT data with social distancing data during the pre-MCO Phase. The results revealed that the public has started to practice social distancing as their interest in COVID-19 increased during the pre-MCO Phase. This situation may be explained by the dissemination of the safety measures for COVID-19 by the health authorities (Elengoe, 2020). These safety measures included the 3Ws (wash, wear, and warn). Wash refers to hand washing, wear for wearing of mask, and warn for avoiding close contact and practicing social distancing (Elengoe, 2020). These measures have been continuously promoted by the health authorities since the onset of the COVID-19 pandemic in Malaysia (Elengoe, 2020). The result of the post hoc multiple comparisons test revealed that the social distancing score was significantly lower during the CMCO phase than during the other phases. This result was expected as the movement restrictions had been lifted, and major businesses, such as the manufacturing industry, restaurants, and agricultural industry, and other services were allowed to operate under strict standard operating procedures.

This study has limitations. First, the absence of individual searches for the analyzed topic and the selection of spelling/terms might have affected the study outcomes (Effenberger et al., 2020). Second, the GT data used in this study does not comprise all the Internet searches. Google contributes 72.0% of all the Internet searches. The remaining percentage of Internet searches performed on other search engine was not included in the current study (Husnayain, Fuad, & Su, 2020). Third, the presumptive association between RSV and the public interest has limitations. While RSV offers an innovative method for accurately estimating public interest and has been used in previous research, its accuracy in measuring public interest has not been validated (Effenberger et al., 2020). Fourth, due to the anonymity of the GT data, identifying which population was unrepresented or excluded in the analysis was difficult. Finally, with the period of the search volume in the current study, the findings and conclusion drawn from this study must be considered in the context of the continually evolving COVID-19 pandemic(Husain et al., 2020), especially in Malaysia.

5. Conclusion

This study revealed the public interest in COVID-19 has increased during the pre-MCO Phase, approximately 2 weeks before the start of the MCO Phase. The first death recorded brought the disease into full public view at the beginning of MCO Phase 1. Surprisingly, the public interest in COVID-19 drastically declined at the end of Phase 1 and continued to decline consistently until the end of CMCO. In conclusion, the use of GT and RSV can help monitor the COVID-19 progression through the assessment of the public interest and can be used to assist risk communication during the COVID-19 pandemic in Malaysia.

In view of the potential occurrence of a third wave, a continuous effort to establish awareness and to sustain the public interest in COVID-19 is recommended. This can be achieved through the involvement of the media and enforcement by health authorities and government agencies.

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Conflict of Interest
None.

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