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Knowledge, Perception and Practice of Malaysian Residents on Covid-19 during the Period of the Conditional Movement Control Order

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Abstract

Introduction: Since Malaysia's first case of Covid-19 was detected early February 2020, cases slowly increased. A Movement Control Order (MCO) was imposed on 18th March 2020 to control spread of the disease. Information on the MCO, the required social behaviour was disseminated through the media. From 4th May 2020 the MCO restrictions were relaxed - thence referred to as the Conditional Movement Order (CMCO). This lasted till 9th June. This study was to determine knowledge, perception, and practice of residents during the CMCO to see if they adhered to the new norms. **Methods:** This was an analytical cross-sectional study. Inclusion criteria was residents of Malaysia aged 20 to 70 years. A pretested questionnaire with internal validity of 0.751 was used via Google forms. Data converted into categorical variables and analysed using SPSSv23. Statistically significant was $p<0.05$. Spearman's co-relation used to determine linear relationship between knowledge and practice and between perception and practice. **Results:** We had a total of 420 respondents. Significant association of knowledge with age group, marital status, employment, and education level. Good practice was significantly associated with marital status, employment, and education level. A weak but significant relationship between knowledge and practice and between perception and practice. From all, 8.1% feel that Covid-19 is not a dangerous disease

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Conclusion: Residents in Malaysia had good knowledge on the new social norms during the CMCO. Overall perceptions and practice scored lower. Focus should be on Health education to ensure residents do not revert to old lifestyle so soon.

Keywords: Conditional Movement Control Order; Covid-19; knowledge.

1. Introduction

Covid-19 is a communicable disease that is generally characterised by a sudden onset of acute respiratory infections with or without fever. This includes one of either shortness of breath, cough, or sore throat[1] . In late December 2019, cases of pneumonia with unknown aetiology, characterized by fever, dry cough, fatigue and occasional gastrointestinal symptoms were reported with possible links to a seafood wholesale wet market in Wuhan city, Hubei Province of China[2,3]. Since then, the disease has spread across the globe and subsequently been identified as Covid-19 with its etiologic agent SARS-CoV-2. According to World Health Organisation (WHO), it is stated that those who are infected, mostly develop mild to moderate symptoms and recover without hospitalization[4] . A study conducted in the year of 2020 shows that it usually begins with fatigue (68.3%), dry cough (60.4%), and fever (55.5%), which are the most common symptoms of COVID-19, followed by less common symptoms: muscle aches (44.6%), diarrhoea (43.6%), headache (42.6%), sore throat (31.2%), loss of taste or smell (26.7%), nausea (19.8%), abdominal pain (12.4%) and vomiting (6.4%). The most serious symptoms are breathing difficulty or shortness of breath (41.1%), and chest pain (16.3%)[5] . However, as this is a new disease, there is still a lot we do not know about this disease as new information continuously emerged. The first case in Malaysia was a 66-year-old Chinese National who had entered the country through Singapore and was confirmed Covid-19 positive by the Singaporean Health Authorities[6] . This marked the first wave attack of the coronavirus. During the first wave, 22 cases were confirmed positive which was then followed by a second wave of 651 cases before 18th March 2020[7] . One of Malaysia's responses to the Covid-19 outbreak was in the form of the Movement Control Order (MCO) that was first implemented[8] for 2 weeks beginning 18th March 2020. This movement restriction for all residents of the country was implemented under the Prevention and Control of Infectious Diseases Act 1988[9] and the Police Act 1967[10] . With cases increasing daily, it was further extended as the second phase of the MCO till 14th April 2020. The third phase of the MCO was from 15th April till 29th April 2020 and the fourth phase from 29th April till 3rd May 2020. From the fourth of May 2020, the MCO was relaxed with selected businesses being allowed to open. This was referred to as the Conditional Movement Control Order (CMCO). The 6th phase (still CMCO) was from 12th May to 9th June and from 10th June, the Recovery Movement Control Order (RMCO) was implemented to last until 31st August 2020. Together with the MCO were specific norms that every person in Malaysia had to follow. These norms were made known to all through the media in every form to ensure they reached everyone. These restrictions were put into place to flatten the curve and not to overwhelm the surge capacity of the health services of the country. With all the efforts put into place by the Government to ensure that the public follow the norms as dictated, we carried out a study to determine the extent to which the Malaysian residents complied with the new social norms in terms of their behaviour and to determine their knowledge and perception of Covid-19, during the period of the Conditional Movement Order.

2. Methods

An analytical cross-sectional study was conducted between early May and early June 2020. The survey asked questions about reported information on Covid-19, perception about the disease and behaviours associated with the spread of the disease. The questionnaire had 4 sections – demography, knowledge, perception, and practice, respectively. Knowledge consisted of 12 variables which covered basic knowledge on Covid-19, the disease, and spread based on information that was freely and widely available to the population. A single point was given for correct knowledge with maximum of 12 points. Where the questionnaire was with a wrong answer, the score was reversed. Based on the median, a score of nine and above was considered good knowledge. Practice was based on the requirements an individual needed to follow such as social distancing, wearing of masks and hand washing. This section consisted of a 10 variable analysis and required the respondent to rate the level of agreement and disagreement of each item based on a five-point Likert scale that ranged from 5 for "strongly agree" to 1 for "strongly disagree". A score of 47 and above, based on the median value was considered as good compliant practice with 46 and less as poor compliance. The maximum possible score for practice was 50. Perception was based on 11 items with the response if they agreed, disagreed or was neutral. A positive score was given to questions answered as expected perception. Based on a median value, nine and above was considered as good perception. The survey was approved by the ethical committee of the University (FOM/SSM/2020/13). All respondents were provided with informed consent (provided in three languages: English, Bahasa Malaysia, and Chinese). They all read, understood, and agreed to the survey before participating in it. No names were collected. Google forms were used (in the same three languages). We had no control on the states the forms were sent to. Using purposive sampling, we attempted to cover both Peninsular Malaysia and East Malaysia, respectively.

2.1 Sample Size

Sample size was calculated by Raosoft[11] sample size calculator, with the margin error of 5%, confidence level of 95%, and response distribution of 50%. An extra 10% of responses was collected to increase the power and to allow for subgroup analysis.

2.2 Inclusion and Exclusion Criteria

The inclusion criteria were residents of Malaysia aged between 20 and 70 years old and those who were able to access the forms via the internet. A resident referred to a Malaysian citizen or anyone who had legally lived in Malaysia for the last two years. We included foreigners in our study as they worked and lived in the country and were expected to follow the same norms as the rest of Malaysians. City referred to the capital towns of Malaysia, and small towns referred to other towns in the country based on postcode. The rest were referred to as countryside or village.

2.3 Validation and Data Analysis

Face value was established with assistance from the Community Medicine Unit of the University. The survey was pilot tested on a subset of the participants and we checked for internal consistency using Cronbach's alpha.

We had a value of 0.751 for the sample size of 30 (N=30) based on 37 items. Data was collected through Google forms survey and then analysed using IBM Statistical Package for Social Sciences (SPSS) software version 23 (IBM Corporation, Chicago, IL, USA). Distributions and frequencies were calculated. All data were analysed as categorical data. Based on good knowledge, good perception, and good practice, we cross tabulated the variables according to gender, age group, locality, region, ethnic group, nationality, marital status, employment, education level and household size. We then analysed the data using Chi-square test of independence. Fishers Exact test was used when conditions for Chi-square was not met. A p value of <0.05 was considered as statistically significant. We used Spearman's co-relation to determine if there was a linear relationship between the rank score of knowledge and practice and between perception and practice, since practice affects the spread of Covid-19.

3. Results

We had a total of 420 respondents of whom females accounted for 61.7% of total. All age groups were represented with most of the respondents being of the younger age group of 20 to 30 years (29.3%) and 31 to 40 years (25.7%). Most of those who responded were from cities and towns (75.2%) with 24.8% from countryside and villages. All regions of the country were represented with maximum representation (54.5%) from the Northern region's states of Kedah, Perlis, Perak, and Penang. The least number of respondents were from the East Coast states of Pahang, Terengganu, and Kelantan (3.8%). We had a good representation from all the ethnic groups of Malaysia with most being of Chinese origin (39.0%) followed by the Malays (33.3%) and Indians (14.8%). Others comprised of the expatriates in Malaysia as well as the other ethnic groups mainly from East Malaysia. These included the Siamese, Iban, Dusun, Kadazan, Sino-Kadazan, Bidayuh, Batak, Punjabi, Lun Bawang, Native Sino, Murut, Melanau, Pribumi Sabah, Dayak and other Bumiputera from Sarawak and Sabah. The non-Malaysian respondents (3.3%) listed themselves as from Brunei, Eurasian, Caucasian, Indian and Sri Lankan respondents. The majority were either married (59.0%) or single (34.3%) with many being employed full-time (50.2%). Most of the respondents (64.8%) had completed their tertiary education while a small minority of 1.7% had only completed their primary education. Most of the respondents came from small families that consisted of one to five members, making up the 69.8% majority while only 1.7% of them have large families that consist of more than 10 members.

Overall, 295 (70.2%) of the respondents had good knowledge on Covid-19, and 239 (56.9%) had good practice. In comparison, 239 (56.9%) had good perception. From our data, we found that knowledge was significantly associated with age group ($p<0.001$), marital status ($p=0.002$), employment status ($p=0.015$), and education level ($p<0.001$). Those who were married and those who had completed their tertiary education generally scored better on knowledge. The age group of 20 to 40 years had overall better knowledge. There was also a better knowledge score amongst those who were working full time and still studying. Practice was significantly associated with marital status ($p=0.035$) and education level ($p=<0.001$). Perception was associated with gender ($p=0.001$), age group ($p=0.003$), marital status ($p=0.010$), and employment ($p=0.003$). People living in cities and those full-time employees were the most compliant, as were singles and married people. Those with an overall higher education scored better on practice. Knowledge and practice were not associated with gender, ethnic group, locality, region, nationality, or by household size, respectively. Perception was not associated with

locality, region, ethnic group, nationality, educational level, or by household size, respectively.

Table 1: Socio-economic characteristic of respondent with relationship to good knowledge, good practice, and good perceptions.

	Total (No.)	**Good Knowledge on Covid-19**		**P value**	**Good Practice on Covid-19 Prevention**		**P value**	**Good Perception on Covid-19**		**P value**
		Yes (%)	No (%)		Yes (%)	No (%)		Yes (%)	No (%)	
Total	420(100)	295(70.2)	125(29.8)		239(56.9)	181(43.1)		239 (56.9)	181 (43.1)	
Gender										
Male	161(38.3)	114(38.6)	47(37.6)	0.913*	85(35.6)	76(42.0)	0.189*	75 (31.4)	86 (47.5)	0.001*
Female	259(61.7)	181(61.4)	78(62.4)		154(64.4)	105(58.0)		164 (68.6)	95 (52.5)	
Age (years)										
20-30	123(29.3)	76(25.8)	47(37.6)	<0.001	65(27.2)	58(32.0)	0.230	57 (23.8)	66 (36.5)	0.003
31-40	108(25.7)	81(27.5)	27(21.6)		64(26.8)	44(24.3)		77 (32.2)	31 (17.1)	
41-50	75(17.9)	40(13.6)	35(28.0)		40(16.7)	35(19.3)		38 (15.9)	37 (20.4)	
51-60	71(16.9)	61(20.7)	10(8.0)		39(16.3)	32(17.7)		43 (18.0)	28 (15.5)	
61-70	43(10.2)	37(12.5)	6(4.8)		31(13.0)	12(6.6)		24 (10.0)	19 (10.5)	
Location										
City	169(40.2)	116(39.3)	53(42.4)	0.699	102(42.7)	67(37.0)	0.313	85 (35.6)	84 (46.4)	0.069
Town	147(35.0)	107(36.3)	40(32.0)		84(35.1)	63(34.8)		88 (36.8)	59 (32.6)	
Village	104(24.8)	72(24.4)	32(25.6)		53(22.2)	51(28.2)		66 (27.6)	38 (21.0)	
Region										
Northern	229(54.5)	150(50.8)	79(63.2)	0.118	130(54.4)	99(54.7)	0.211	136 (56.9)	93 (51.4)	0.197
Central	63(15.0)	47(15.9)	16(12.8)		30(12.6)	33(18.2)		30 (12.6)	33 (18.2)	
Southern	20(4.8)	15(5.1)	5(4.0)		13(5.4)	7(3.9)		9 (3.8)	11 (6.1)	
East Coast	16(3.8)	10(3.4)	6(4.8)		7(2.9)	9(5.0)		7 (2.9)	9 (5.0)	
Sabah/ Sarawak	92(21.9)	73(24.7)	19(15.2)		59(24.7)	33(18.2)		57 (23.8)	35 (19.3)	
Ethnic Group										
Malay	140(33.3)	93(31.5)	47(37.6)	0.169	79(33.1)	61(33.7)	0.685	76 (31.8)	64 (35.4)	0.789
Chinese	164(39.0)	117(39.7)	47(37.6)		93(38.9)	71(39.2)		98 (41.0)	66 (36.5)	
Indian	62(14.8)	50(16.9)	12(9.6)		39(16.3)	23(12.7)		34 (14.2)	28 (15.5)	
Others	54(12.9)	35(11.9)	19(15.2)		28(11.7)	26(14.4)		31 (13.0)	23 (12.7)	
Nationality										
Malaysian	406(96.7)	285(96.6)	121(96.8)	1.0*	228(95.4)	178(98.3)	0.108*	231 (96.7)	175 (96.7)	1.0*
Non-										

Malaysian	14(3.3)	10(3.4)	4(3.2)		11(4.6)	3(1.7)		8 (3.3)	6 (3.3)	
Marital status **Single** **Married** **In relationship** **Divorced** **Widowed** **N/A**	144(34.3) 248(59.0) 8(1.9) 9(2.1) 10(2.4) 1(0.2)	93(31.5) 189(64.1) 3(1.0) 3(1.0) 7(2.4) 0(0)	51(40.8) 59(47.2) 5(4.0) 6(4.8) 3(2.4) 1(0.8)	0.002*	74(31.0) 155(64.9) 4(1.7) 2(0.8) 4(1.7) 0(0.0)	70(38.7) 93(51.4) 4(2.2) 7(3.9) 6(3.3) 1(0.6)	0.035*	69 (28.9) 159 (66.5) 3 (1.3) 3 (1.3) 4 (1.7) 1 (0.4)	75 (41.4) 89 (49.2) 5 (2.8) 6 (3.3) 6 (3.3) 0 (0.0)	0.010*
Employment **Full time** **Part time** **Own business** **Retired** **Housewife** **Un-employed** **Still Studying**	211(50.2) 8(1.9) 28(6.7) 43(10.2) 24(5.7) 6(1.4) 100(23.8)	157(53.2) 4(1.4) 18(6.1) 36(12.2) 13(4.4) 2(0.7) 65(22.0)	54(43.2) 4(3.2) 10(8.0) 7(5.6) 11(8.8) 4(3.2) 35(28.0)	0.015*	126(52.7) 3(1.3) 12(5.0) 29(12.1) 10(4.2) 3(1.3) 56(23.4)	85(47.0) 5(2.8) 16(8.8) 14(7.7) 14(7.7) 3(1.7) 44(24.3)	0.202*	138 (57.7) 3 (1.3) 15 (6.3) 18 (7.5) 16 (6.7) 1 (0.4) 48 (20.1)	73 (40.3) 5 (2.8) 13 (7.2) 25 (13.8) 8 (4.4) 5 (2.8) 52 (28.7)	0.003*
Education level **Non- formal** **Primary** **Secondary** **Pre-university** **Tertiary**	5(1.2) 7(1.7) 62(14.8) 74(17.6) 272(64.8)	1(0.3) 2(0.7) 36(12.2) 47(15.9) 209(70.8)	4(3.2) 5(4.0) 26(20.8) 27(21.6) 63(50.4)	<0.001*	0(0.0) 3(1.3) 19(7.9) 41(17.2) 176(73.6)	5(2.8) 4(2.2) 43(23.8) 33(18.2) 96(53.0)	<0.001*	2 (0.8) 3 (1.3) 33 (13.8) 37 (15.5) 164 (68.6)	3 (1.7) 4 (2.2) 29 (16.0) 37 (20.4) 108 (59.7)	0.379
Household Size **1 to 5 members** **6 to 10 members** **> 10 members**	293(69.8) 120(28.6) 7(1.7)	215(72.9) 75(25.4) 5(1.7)	78(62.4) 45(36.0) 2(1.6)	0.090*	172(72.0) 64(26.8) 3(1.3)	121(66.9) 56(30.9) 4(2.2)	0.455*	170 (71.1) 66 (27.6) 3 (1.3)	123 (68.0) 54 (29.8) 4 (2.2)	0.641*

* Fishers Exact test used.

Table 2: Respondents who answered correctly to knowledge and good practice.

Variables	Number and percentage of respondents with expected correct answer (%)
Knowledge (respondents who answered correctly)	
1. COVID-19 is a new and dangerous disease.	412(98.1)
2. COVID-19 is a highly contagious disease that causes fever, cough, and difficulty in breathing.	415(98.8)
3. COVID-19 is caused by a bacterial infection.	58(13.8)
4. COVID-19 is caused by a type of virus that can infect both human and animals.	56(13.3)
5. COVID-19 can spread from one person to another via respiratory droplets when sneezing and coughing.	417(99.3)
6. The virus causing COVID-19 remains active in the environment for a few hours after an infected person coughs or sneezes.	399(95.0)
7. A COVID-19 infected person who does not have active symptoms may spread the disease to a healthy person.	397(94.5)
8. Drinking warm water or drinking alcohol can prevent me from getting the disease.	320(76.2)
9. Consuming hot pepper or herbal soups can prevent or cure COVID-19.	303(72.1)
10. COVID-19 can seriously affect elderly people and those with underlying diseases like high blood pressure, diabetes, heart problem, etc.	401(95.5)
11. COVID-19 infection can be treated with antibiotic therapy.	202(48.1)
12. COVID-19 can be prevented or cured by the currently available vaccines.	259(61.7)
Practice (respondents who claim to always conform)	
1. I avoid unnecessary outdoor activities such as picnics and outdoor sports.	295(70.2)
2. I always keep three feet (one meter) away from others in public.	319(76.0)
3. I do not shake hands or have any physical contact when I meet anyone in public.	324(77.1)
4. I always wear face mask when I leave home.	341(81.2)
5. I always wash my hands frequently with soap or hand sanitizers each time I touch something in public.	314(74.8)
6. I do not visit my friends or relatives unnecessarily.	294(70.0)
7. I do not conduct or participate in any large gathering which involves more than 20 people.	335(79.8)
8. I cover my nose and mouth with a handkerchief or my elbow whenever I cough or sneeze.	309(73.6)
9. I try not to touch my nose, mouth, or eyes.	228(54.3)
10. I will stay at home when I feel sick even if it is just a headache, mild fever, or a slight cough.	322(76.7)

From the breakdown of knowledge, we find that people have some misconstrued beliefs that consuming hot herbal soups and other foods would help to prevent Covid-19. Nevertheless, the majority still conform to good practices.

Table 3: Perception towards Covid-19.

Perception towards COVID-19			
	Number (Percentage)		
Variables	**Agree**	**Neutral**	**Disagree**
1. Preventive measures are not necessary anymore as there are no more active cases in my state.	22 (5.2%)	26 (6.2%)	372 (88.6%)
2. There is no harm for me to visit my friends or relatives if both of us are healthy and not sick.	50 (11.9%)	120 (28.6%)	250 (59.5%)
3. I feel stressed and bored staying at home, avoiding gatherings and other outdoor activities.	74 (17.6%)	120 (28.6%)	226 (53.8%)
4. Social distancing makes me feel isolated from the others.	40 (9.5%)	61 (14.5%)	319 (76.0%)
5. It is disrespectful if I do not shake hands with others as it is a part of Malaysian culture.	21 (5.0%)	54 (12.9%)	345 (82.1%)
6. I do not like to wear face masks because it is difficult to breathe and it makes me feel uncomfortable.	81 (19.3%)	90 (21.4%)	249 (59.3%)
7. I do not need to wear face masks during outings if I am not sick.	31 (7.4%)	57 (13.6%)	332 (79.0%)
8. Frequent hand washing is a waste of water and money.	8 (1.9%)	21 (5.0%)	391 (93.1%)
9. I feel that it is disgusting to cover my nose and mouth with my elbow when I cough or sneeze.	37 (8.8%)	55 (13.1%)	328 (78.1%)
10. I feel that it is impossible for me to get infected if I have a good immune system.	18 (4.3%)	75 (17.9%)	327 (77.9%)
11. Overall, I do not think COVID-19 is a dangerous disease.	34 (8.1%)	22 (5.2%)	364 (86.7%)

Perception scored the lowest compared with knowledge and practice. A small percentage of respondents felt that preventive measures are not necessary (5.2%), and a few (8.1%) who did not think that Covid-19 is a dangerous disease. Many (19.3%) felt that wearing a face mask was uncomfortable and found it difficult to breathe in it. Some (7.4%) did not feel that it was necessary to wear a mask if they were not sick. From this survey, we had six respondents (1.4%) who had been infected with Covid-19 and another 38 (9.0%) who knew of someone who had been infected with the disease. From analysis of the six who respondents who claimed to have been infected with Covid-19, we found that all were males, of whom five (83.3%) had poor knowledge score and poor perception score, respectively. Four (66.7%) had poor practice score.

Table 4: Spearman's correlation co-efficient (r) of knowledge and practice score and knowledge and perception score (n=420).

Variable	Mean (SD)	r	p value
Knowledge score	44.8(6.31)	0.235	<0.001
Practice score	9.38(1.73)		
Perception score	8.32(2.44)	0.288	<0.001
Practice score	44.8(6.31)		

SD – standard deviation

The results from Spearman's correlation suggests a weak positive relation between the variables, knowledge and practice scores, r=0.235, p=<0.001. However, this correlation is significant. There was also a weak positive correlation between practice and perception score, r=0.288, p=<0.001. This correlation is significant too.

4. Discussion

Since Covid-19 is a new disease, there is relatively few published data on Covid-19. Until and unless a vaccine is freely available, herd immunity is developed, or if the disease dies out, all precautions on social distancing and hygiene need to be followed. As the country slowly moves towards easing of restrictions, it is crucial to know if this easing is going to result in digressing public apathy towards the new social norms. Even with the availability of a vaccine, the new social norms still need to be internalized This study was conducted during the CMCO which was just after the MCO phase when most of the restrictions were in place and people were still in the mind-set of the MCO. Our score for good knowledge was 70.2%. A previous study[12] conducted during the MCO, at the end of March to early April 2020, found that the overall correct rate of the knowledge questionnaire was 80.5% which is much higher than our findings. However, with the hype and seriousness of this disease worldwide, everyone needs to know or be taught about the disease. Studies on Covid-19 knowledge have been conducted in many settings with overall good knowledge score[13,14,15]. We anticipate that as recovery occurs and the Nation gets into a less stringent phase with opening of more business, people will

follow social distancing less and less. This could lead to a resurgence of cases as seen in some parts of the world where the disease was known to have been controlled[16,17]. This is also seen in Malaysia. In tandem with the information on Covid-19 by the authorities, there is also an outbreak of infodemics, false information and misinformation especially through the social media. This may have confused some of the population. However, there is still high knowledge score amongst those working full time. It may be due to their vested interest in keeping up to date with current events. Similarly, students and young adults may have more opportunities to keep themselves updated through the media on the current developments on Covid-19. The survey also shows that younger people aged 20 to 40 years have significantly higher scores for knowledge, unlike findings elsewhere[18]. For students, young adults and working adults, the status of Covid-19 affects their studies and work and therefore contributes to the interest in keeping up to date with the situation. Overall, people were compliant. The best practices were seen in the cities. This may also be due to the higher level of enforcement there as compared to the rural areas. In addition, cities are more crowded, and compliance is crucial. To stop the spread of Covid-19, good practices always need to be followed. Our level of good practice here is at 56.9% which is lower than the knowledge score. This shows that with the health promotion in the media, people did receive the needed knowledge, but ignored the need to practice what they know. These are much lower figures compared to studies in other countries where knowledge and practice scored higher[19]. It is likely that people follow what is required out of fear of contracting the disease and out of fear of getting caught breaking the law. Perception is difficult to change. We can provide knowledge, but people will hold fast to their own perception. However, this did not stop people from adhering to good practices. This may also be due to the strict enforcement by the authorities to ensure that social distancing and proper hygiene measures were followed as per the guidelines then. During the early stages of the MCO, due to the increased demand, there was a shortage of face masks in Malaysia and around the world[20,21]. By the CMCO period, the face masks were freely available. In addition, the Malaysian Government distributed a pack of four face masks to every family in the country. Despite this shortage, there was general compliance due to the strict enforcement. Again, it is anticipated that with poorer attitude on Covid-19, some may consider it not to be a dangerous disease. Wearing masks continuously in public is uncomfortable and a proportion of the respondents were not comfortable with it. Some feel that they do not need to wear face masks if they are not sick. Feeling that preventive measures are unnecessary; people may resort fast to discarding the social distancing being followed here. The MCO imposed by the country was effective in curtailing the spread of Covid-19[22] in Malaysia as seen in the decrease in the number of cases and in the "flattening of the curve" during the months of July to September, 2020. In this study, a significant majority of the people with good knowledge had good practice. However, overall attitude on various aspects of Covid-19, the disease and the required preventive measures are varied, and it waits to be seen if the people continue to practice the new social norms when the obvious risk and imminent fear of contracting Covid-19 decreases.

5. Conclusion

This study reveals that during the CMCO, at the period when the movement restrictions were eased, Malaysian residents had overall good knowledge of Covid-19. In comparison, perception, and practice score, although good scored much lower. There was a significant but weak correlation between good knowledge and good practice. There was also a significant but weak correlation between good perception and good practice. Poor

perception and poor practice may be an issue later when restrictions are further eased as the residents may feel that many of the social distancing rules are not necessary. We recommend that despite the easing of the restrictions, all health promotions and education of the masses must continue as it is currently being done through the media. Enforcement is also needed to ensure that practices such as wearing of masks in public and social distancing continue as part of the new social norm. People should continue to practice hand hygiene and to be aware of the high-risk behaviours that would expose them to infection. Until the vaccine is freely available and accessible, or a specific treatment is found, the risk is always present.

6. Limitations

There may be some limitations in the study. The sample size was calculated for the minimum as required for analysis and not for intergroup analysis, and therefore it may not be representative of the whole population. Nevertheless, it gives an idea of the general knowledge, perception, and practice of a cross-section of the population during the CMCO. Future studies need to incorporate larger sample size to test the predictors of knowledge, attitude, and perception. Secondly the questionnaire was sent out with the three languages incorporated into each question. During validation, we are unable to separate for each language. Thirdly, our random selection of respondents through the Google forms has its limitations as it reaches only those who have access to the internet.

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