

# Knowledge and Readiness of COVID-19 and MCO from the Perspective of Safety and Health Competent Persons and Training Providers in Malaysia

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The effects and aftermath of the COVID-19 pandemic and ensuing Movement Control Order (MCO) will be felt for a long while, even after the MCO period ends. It is imperative to determine and measure the level of knowledge and readiness among Safety and Health Competent Persons (SHCPs) and Training Providers (TPs) in handling issues relating to COVID-19 during the MCO in Malaysia. A survey instrument was developed and validated by expert panels from academia and enforcement agency. A pilot study involving 40 respondents showed high reliability, with a Cronbach's alpha score of 0.95 and 0.96 for SHCP and TP. A full-blown research was carried out for two weeks from the 14<sup>th</sup> to 28<sup>th</sup> of April 2020. This cross-sectional study covers all states in Malaysia and has been distributed to approximately 3,000 respondents with a response rate of 10.6 % from respondents employed in various sectors. The construction sectors recorded the highest percentage of responses as compared to other sectors at 37 % followed by manufacturing sectors at 23 % and public services and statutory authorities at 18 %. The companies are a mix of small, medium-sized enterprises (47 %), and large establishments (53 %), which altogether have a wide range of turnover rates. This study highlights that SHCPs and TPs in Malaysia have moderate post-MCO awareness and readiness in terms of knowledge, skills, standard operating procedure, social distancing, and basic equipment to control and curb workplace contagion after the MCO is lifted. There are uncertainties regarding the TP's willingness to budget for and bear the daily costs of the decontamination procedure, personal protective equipment usage, space availability, and the COVID-19 screening process. The readiness of SHCPs and TPs have been measured and identified. SHCPs and TPs need more knowledge in post-MCO COVID-19 management, especially in terms of the capacity of the trained staff to adequately screen workers for COVID-19 symptoms after the MCO is lifted. SHCPs and TPs believe they are underprepared, but they are willing to learn more about pandemic preparedness if training options are provided. A plan of action to address these issues has been proposed to DOSH Malaysia for guidance on formulating the next step forward.

## 1. Introduction

Coronavirus is an ongoing pandemic that is causing fatalities globally. The outbreak started with the first case reported in Wuhan, Hubei, China, in December 2019 (WHO, 2020). Individuals diagnosed with the disease experienced fever, dry cough, fatigue, and occasional gastrointestinal symptoms that initially spread through social interactions. More than 2.1 M cases were reported worldwide as of the 18<sup>th</sup> of April 2020, and 5,305 cases were from Malaysia. In mid-March 2020, Malaysia recorded a rapid increase in the number of positive cases. The statistics have shown that COVID-19 has spread exponentially across the world, prompting many countries to implement social distancing and lockdown/movement control orders. The Malaysian government

has imposed a partial lockdown or known as the Movement Control Order (MCO) to help combat the COVID-19 pandemic, effective 18<sup>th</sup> March 2020, to introduce social distancing and abate the transmission rate of the virus including shutting down all government and private premises except for those involved in “essential services” (Pintarič and Kravanja, 2020). During the MCO, the government, through the Malaysian National Security Council (NSC) or *Majlis Keselamatan Negara* (MKN), conducted roadblocks throughout the country (Azman, 2020) to monitor the movement of the people and warned all MCO violators that they would be penalised (United Nations Development Programme, 1994). Malaysia’s military forces also joined hands with the Royal Malaysia Police (PDRM) to enforce MCO on the 22<sup>nd</sup> of March 2020. The MCO order was extended three times, each for a further two weeks, until the 12<sup>th</sup> of May 2020. On the 13<sup>th</sup> of May 2020, Malaysia moved into the Conditional Movement Control Order (CMCO). On the 8<sup>th</sup> of June 2020, the government introduced the Recovery Movement Control Order (RMCO), which ran until 31<sup>st</sup> of August 2020. This control is made under the Prevention and Control of Infectious Diseases Act 1988 and the Police Act 1967. Safety and Health Competent Persons (SHCPs) and Training Providers (TPs) as frontline professionals advocating for the occupational safety and health (OSH) conditions at work, have a pivotal role in an organisation. Other than the actual task of being a competent person and a centre for training, SHCPs and TPs require appropriate and sufficient knowledge to ensure adequate preventive measure at the workplace. Due to the COVID-19 pandemic, the preventive measures are focused on measures to prevent the spread of COVID-19. Such interventions can be accomplished by ascertaining this community’s comprehension and whether it possesses sufficient information and the appropriate attitude regarding COVID-19 transmission and prevention.

To date, there is no study done in Malaysia, particularly in the SHCP and TP community, to evaluate the level of awareness, and the knowledge of these groups about the transmission and preventive measures put in place to mitigate the COVID-19 outbreak at their workplace. A study of public knowledge, attitudes, and practises regarding COVID-19 revealed that managing and controlling an outbreak requires a thorough understanding of the disease by the population in order to prevent its spread within the community (Azlan et al., 2020). Albeit the results of studies in the United States and United Kingdom claiming that participants have generally good knowledge on the main mode of disease transmission and common symptoms, the survey identified several important misconceptions including beliefs in falsehoods that have circulated on social media, for example, that children appear to be at a lower risk for a fatal disease than adults (Rubin and Crowe, 2020). This shows that such studies are critical in determining the status of knowledge and readiness among the target subjects of interest, whether the general public or a particular group. The next step that is essential is correcting these misconceptions that should be targeted in information campaigns organised by the authorities. The objective of this study is to measure the level of knowledge and readiness of the SHCPs and TPs in Malaysia concerning the impact of COVID-19 pandemic and MCO, and to compare the differences between SHCP and TPs capabilities between SMEs and large companies.

## **2. Methods**

### **2.1 Construction of the questionnaire**

The questionnaire consisted of 36 items with six main sections: A) Demographics of respondents, B) General impact of COVID-19 and MCO; C) Employer cooperation; D) Competence license of SHCP; E) Effect of COVID-19 and MCO to TPs registered with DOSH Malaysia and F) Suggestions and recommendations from respondents. In section C of question number four, the level of preparedness of TPs and SHCPs in terms of knowledge (components 1–6) and capacity (components 7–17) for containing the spread of COVID-19 and ensuring compliance during MCO is assessed using 17 components found in the items. This questionnaire is attempting to solicit perception of SHCPs and TPs regarding general knowledge pertaining MCO and Covid-19. Due to sample size limitation of approximately 10 % of the respondents, this survey will provide some indications of the sample size and does not represent the entire SHCPs and TPs.

### **2.2 Validity and reliability**

To ensure content validity, all the items were examined through Focus Group Discussion (FGD), expert panels from academia and enforcement agency. There are two aspects that have been reviewed. The first is semantics ensuring the sentences are compatible with the target population (SHCPs and TPs in Malaysia) and the other is content of the questionnaire. The questions are suitable and adequate to measure the objective of this study. The items were finalised based on the opinion of the team of experts to include in the instrument/questionnaire in the related fields. The required sample size of 10 % was used in the pilot study to ensure a face validity and reliability of the questionnaire. A total of 40 respondents were picked at random from various sectors to see if the questions allowed the group to comprehend the content, and they were asked to state any difficulties they had with the questionnaire (Shariat et al., 2016). The reliability of the

questionnaire was assessed using Cronbach's alpha in all items, considering the minimum value of 0.6 (Sasaki et al., 2020).

### 2.3 Respondents

Preliminary testing occurred using a convenience sample of 40 respondents. Respondents were asked to provide feedback and opinions on items that were difficult to respond to. The items will be re-examined and revised. The full-blown survey involved 3,000 respondents that were recruited from registrants of a DOSH website.

### 2.4 Statistical data analysis

For analysis, the data were entered and processed using SPSS 22.0 software (Arkkelin, 2019). Descriptive statistics consist of mean and standard deviation (SD). To investigate the group differences of readiness and knowledge, t-test was carried out. The mean and standard deviation (SD) for each Likert scale question were calculated. The mean of perceived weak knowledge was set between 1.00 and 2.99, the mean of perceived moderate knowledge was set between 3.00 and 3.99, and the mean of perceived strong knowledge was set between 4.00 and 5.00. This was true both for individual items and for the overall score. For demographic variables, frequencies and percentages were calculated.

## 3. Results and discussion

### 3.1 Demographics

This study's sample included 318 respondents that consist of SHCPs and TPs. This online survey covers all states in Malaysia and has been distributed to approximately 3,000 respondents with a response rate of 10.6 %. Gender, age, level of education, status of work, sector, and size of the company are presented in Table 1 by frequencies and percentages.

Table 1: Demographics of respondents

	<i>n</i> = 318 (SHCP + TP)		<i>n</i> = 267 (SHCP)		<i>N</i> = 51 (TP)	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Gender						
Male	269	85	227	85	42	83
Female	49	15	40	15	9	18
Age						
18-25 y	7	2	7	3	0	0
26-35 y	126	40	117	44	9	18
36-45 y	99	31	81	30	18	35
46-55 y	66	21	48	18	18	35
More than 55 y	20	6	14	5	6	12
Level of education						
SRP/PMR	1	0.3	0	0	1	2
SPM/ STPM	26	8	23	9	3	6
Diploma	99	31	94	35	5	10
Bachelor's	107	34	92	35	15	29
Master's	68	21	53	20	15	29
PhD's	17	5	5	2	12	24
Representative						
OSH Competent person	248	78	230	86	18	35
Training center representative	9	3	1	0	8	16
OSH trainer	20	6	3	1	17	33
OSH competent firm representative	1	0.3	1	0	0	0
Employee representative	21	7	18	7	3	6
Employer representative	11	4	9	3	2	4
OSH NGO	2	0.6	1	0	1	2
DOSH Officers	6	2	4	2	2	4
Type of sector						
Manufacturing	72	23	65	24	7	14

Table 1: Demographics of respondents (continue)

	<i>n</i> = 318 (SHCP + TP)		<i>n</i> = 267 (SHCP)		<i>N</i> = 51 (TP)	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Mining and Quarrying	8	3	8	3	0	0
Construction	116	37	103	39	13	26
Agriculture, Forestry and Fishing	4	1	4	2	0	0
Utilities - Gas, Electricity, Water and Sanitary Services	29	9	27	10	2	4
Transport, Storage and Communication	12	4	12	5	0	0
Wholesale and Retail Trades	1	0.3	1	0	0	0
Hotels and Restaurant	4	1	2	1	2	4
Finance, Insurance, Real Estate and Business Services	16	5	10	4	6	12
Public Services and Statutory Authorities	56	18	35	13	21	41
Size of Company						
Small (Manufacturing) (5 until <75 of full-time worker)	20	6	19	7	1	2
Small (Services and other Sector) (5 until <30 of full-time worker)	24	8	19	7	5	10
Medium (Manufacturing) (75 until <200 of full-time worker)	47	15	42	16	5	10
Medium (Services and other Sector) (75 until <200 of fulltime)	29	9	25	9	4	8
Large (>200 of full time worker)	168	53	146	55	22	43

### 3.2 Knowledge and readiness of participants in handling issues relating to COVID-19

The frequency distributions and descriptive statistics for the responses to 17 components concerning SHCP's knowledge and employer's capacity in handling issues relating to COVID-19 at the workplace are presented in Table 2. The mean scores for each item were sorted in order of high to low. The overall mean score based on the 17 components was  $3.56 \pm 1.04$  (not shown), which leans towards the high end (i.e., towards "knowledgeable/has capacity") of the five-point scale and implies that the level of readiness is average, indicating that the level of readiness among SHCPs and TPs in Malaysia is moderate. The findings of this study show that the majority of respondents agreed that the SHCPs were ready in terms of knowledge, skills, SOP screening and social distancing as well as basic equipment to control the spread of the COVID-19 outbreak in the workplace when MCO is lifted as the component relating to knowledge was in the top five rating. The highest rating by the respondents is the item stating that SHCPs/TPs in Malaysia know the consequences if they failed to comply with the MCO and can provide MCO notice to all employees (Mean: 3.99). Respondents were uncertain about employers' willingness to provide a budget to cover the daily costs of defaulting operations, use of PPE, space provision, and other screening facilities as related items were in the bottom rating. The lowest rating by the respondents is the item that states SHCPs have the financial capacity to appoint a contractor to carry out the process of cleaning and disinfecting the workplace at the end of MCO (Mean: 3.18). Although all participants stated that they know the effects of non-compliance with MCO and provided notice to all employees, most of them do not have sufficient information about workplace disinfection processes when the employees return to work. This could indicate a lack of timely and credible information about post-MCO preparedness to contain the contagion. This variation in knowledge levels may reflect the country's current COVID-19 information landscape. Albeit health authorities have consistently disseminated information about COVID-19 since Malaysia's first case of the disease was discovered, false and inaccurate information have also been circulating on the mass media (Bernama, 2020).

### 3.3 Differences in the knowledge and capacity of SHCPs in SMEs and large companies

The difference in knowledge and capacity of SHCP (*n* = 267) scores among the different sizes of companies were assessed using t-test analysis. The results show that the employer's capabilities to control spreading of COVID-19 at workplace for Small Medium Enterprises (SMEs) was significantly different from large companies as the p-value of each component (7–17 except component no 10) were less than 0.05. The item that showed a highly significant difference was the item that states SHCP/employer has the financial capacity to appoint a contractor to carry out the process of cleaning and disinfecting the workplace after MCO is lifted ( $p = 0.000$ ). It is well known that SMEs and large companies are very different in many aspects, especially involving financial capability (Surienty et al., 2011). In the case of SMEs, OSH implementation is often irrelevant as they do not have a vast workforce to do health screenings and do not have financial allocation for screening tools coupled with the economic crisis that is happening around the world due to COVID-19 where SMEs are severely affected (Che Omar et al., 2020). There was no significant difference between those groups in terms of knowledge of COVID-19 (Table 3). The information about risk of COVID-19, cleaning procedures, health

screenings and operating procedures were issued by National Security Council Malaysia, Ministry of Health (MOH) as well as other relevant authorities. MOH have been consistently disseminating and updating COVID-19 information using mass media and social media. Ultimately, all Malaysians including SHCPs, have adequate knowledge to prevent the spreading of COVID-19 in the community (Azlan et al., 2020). In the workplace, Ministry of Human Resources Malaysia reminded all employers and employees to comply with OSHA 1994 and take control measures to prevent the spread of COVID-19 at the workplace by issuing a compliance order in March. DOSH Malaysia has published COVID-19 safe operating procedures at the workplace as a guide to employers and employees for prevention of COVID-19.

*Table 2: Level of readiness of COVID-19 handling in workplace for SHCP*

17 components related to COVID-19 knowledge and capacity of SHCP	Mean	SD
C4_6: Knows the effects of failure to comply with MCO and how to provides MCO notice to all employees	3.99	0.930
C4_5: Provides warning notices to all employees about the dangers of COVID-19	3.92	0.913
C4_1: Have the knowledge and exposure to the best control method of COVID-19	3.76	0.916
C4_3: Knows about the procedure to return to operation after MCO	3.76	0.947
C4_15: Have the knowledge and best practices to implement 1-meter social distancing in workplace operations at the end of MCO	3.75	1.008
C4_2: Knowledgeable and able to control the COVID-19 outbreak in the workplace	3.69	0.925
C4_4: Knows about cleaning methods and disinfecting processes in the workplace before workers are allowed to work after the MCO	3.68	0.994
C4_7: Having capacity in terms of SOP and best practices to conduct COVID-19 symptomatic health screening when MCO ends	3.63	1.024
C4_17: COVID-19 pandemic risk considerations in HIRARC and having basic SOPs	3.61	1.065
C4_10: Has capacity in SOP and cooperation with MOH if any employee fails (there is a positive sign) during COVID-19 symptomatic health screening at the end of MCO	3.6	1.042
C4_16: Has the financial and supply capacity to provide PPE daily to all employees	3.45	1.122
C4_8: Has the capacity in terms of safe space for COVID-19 symptom health screening	3.44	1.066
C4_9: Has the capacity in terms of screening tools for COVID-19 symptomatic screening	3.35	1.118
C4_12: Has the capacity of trained staff to carry out the process of cleaning and disinfecting the workplace at the end of the MCO	3.23	1.159
C4_13: Has the capacity in terms of equipment to carry out the process of cleaning and disinfecting the workplace at the end of MCO	3.23	1.133
C4_14: Has enough trained staff to screen COVID-19 symptoms for many employees	3.19	1.100
C4_11: Has the financial capacity to appoint a contractor to carry out the process of cleaning and disinfecting the workplace at the end of MCO	3.18	1.156

*Table 3: Differences in the knowledge and capacity of SHCPs in SMEs and large companies*

Items	Knowledge/ capacity	Group	N	Mean	Std Deviation	Std. Error Mean	Sig.	
C4_1	Knowledge	Large	146	3.86	0.902	0.075	0.202	NSD
		SME	121	3.71	0.953	0.087		
C4_2-		Large	146	3.75	0.899	0.074	0.463	NSD
		SME	121	3.67	0.969	0.088		
C4_3-		Large	146	3.86	0.894	0.074	0.158	NSD
		SME	121	3.69	0.973	0.088		
C4_4-		Large	146	3.77	0.960	0.079	0.166	NSD
		SME	121	3.60	1.045	0.095		
C4_5-		Large	146	4.05	0.853	0.071	0.051	NSD
		SME	121	3.83	0.978	0.089		
C4_6-		Large	146	4.10	0.833	0.069	0.067	NSD
		SME	121	3.88	1.042	0.095		
C4_7-	Capacity	Large	146	3.81	0.942	0.078	0.013	P<0.05(*)
		SME	121	3.50	1.042	0.095		
C4_8		Large	146	3.59	1.061	0.088	0.021	P<0.05(*)
		SME	121	3.29	1.044	0.095		
C4_9		Large	146	3.49	1.084	0.090	0.043	P<0.05(*)

Table 3: Differences in the knowledge and capacity of SHCPs in SMEs and large companies (continue)

Items	Knowledge/ capacity	Group	N	Mean	Std Deviation	Std. Error Mean	Sig.	
C4_10-	Capacity	Large	146	3.69	1.007	0.083	0.182	NSD
		SME	121	3.52	1.081	0.098		
C4_11-		Large	146	3.33	1.096	0.091	0.026	P<0.05(*)
		SME	121	3.03	1.040	0.095		
C4_12-		Large	146	3.36	1.125	0.093	0.036	P<0.05(*)
		SME	121	3.06	1.178	0.107		
C4_13 -		Large	146	3.38	1.084	0.090	0.021	P<0.05(*)
		SME	121	3.07	1.153	0.105		
C4_14-		Large	146	3.45	1.163	0.096	0.000	P<0.001
		SME	121	2.93	1.074	0.098		(****)
C4_15-		Large	146	3.90	0.985	0.082	0.021	P<0.05(*)
		SME	121	3.61	1.067	0.097		
C4_16-		Large	146	3.66	1.079	0.089	0.013	P<0.05(*)
		SME	121	3.32	1.112	0.101		
C4_17-		Large	146	3.73	1.005	0.083	0.039	P<0.05(*)
		SME	121	3.46	1.126	0.102		

NSD: Non Significant Different, \*,  $p<0.05$ ; \*\*,  $p<0.01$ ; \*\*\*,  $p<0.005$ ; \*\*\*\*,  $p<0.0001$

#### 4. Conclusion

The current study was able to conduct a thorough examination of SHCPs and TPs' readiness for COVID-19 and MCO. The findings suggest that level of readiness among SHCPs and TPs in Malaysia was revealed to be moderate. There are significant differences in terms of capabilities to combat COVID-19 at the workplace when comparing SHCPs from SMEs and large companies. A longitudinal research for the year 2021 should be conducted so that early findings from last year and this year can be compared. A plan of action to address these issues has been proposed to DOSH Malaysia for guidance on formulating the next step forward.

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