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The Impact of Movement Control Order Phases on Quality of Life among Collegiate Students

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Abstract

This study measured the impact of the different phases during movement control order on quality of life among local Malaysian university students' aged >18 years old. An online survey was distributed through a social media platform during movement control order (MCO; 20 April to 12 May 2020) and conditional movement control order (CMCO; 12 to 20 May 2020). The same participants completed SF-36 quality of life questionnaire that assessed the overall physical health, mental health, and eight domains which are physical functioning (PF), physical role functioning (RF), bodily pain (BP), general health perceptions (GH), vitality (V), social role functioning (SF), emotional role functioning (EF), and mental health (MH) in both phases. A total of 523 participants (Male = 222, female = 301) completed the survey. A Wilcoxon signed-rank test showed that there was a significant difference in participants' quality of life between MCO and CMCO phase. It was revealed in comparison to CMCO phase, the participants reported lower in both health related and mental quality of life for PF (Z = -13.79, p <.001), RF (Z = -13.59, p <.001), BP (Z = -11.64, p <.001), GH (Z = -12.97, p <.001), V (Z = -13.15, p <.001), SF (Z = -15.19, p <.001), EF (Z = -13.71, p <.001), and MH (Z = -8.47, p <.001). In overall university students quality of life, a better score was shown in physical health quality of life (Z = -13.94, p <.001) and mental health quality of life (Z = -13.21, p <.001) during CMCO compared to MCO phase. Variance experiences through the COVID-19 pandemic faced by the university students during both phases of movement control order and conditional movement control order were noted to have an impact on their quality of life.

Keywords: Covid-19, Quality of Life, Students, Malaysia, MCO, CMCO

Introduction

Practically in all parts of Asia and in the majority of European and North American countries, coronavirus illness, which was identified as COVID-19 by the World Health Organization (WHO), spreads swiftly. COVID-19 cases were shown to be more severe than SARS-CoV cases. By the 25th of February, 2020, a total of 81,109 tests have been documented worldwide. As of 3 July 2020, the confirmed COVID-19 cases skyrocketed to 11,084,490, due to the vulnerable spread of the pandemic with 526,397 deaths (Bhusare et al., 2020). Due to

a lack of definitive treatment and limited information on innovative and the dangerous of this virus, coronaviruses has become a difficult and truly strenuous scenario for all global experts (Bhusare et al., 2020). COVID-19 was initially discovered in Malaysia on 25 January 2020, with relatively few reported cases and largely confined to imported cases. It was until March 2020 that localized clusters began to appear in a substantial way, surpassing the 2000 active cases mark by the end of the month, up from less than 30 instances earlier in the month. In Malaysia, the explosive COVID-19 epidemic has prompted the implementation of pragmatic preventative measures such as thorough case diagnosis, accurate tracking, and mandatory two-week quarantine. As a result, Malaysia's government has announced the implementation of the Movement Control Order (MCO) as a technique for flattening the pandemic curve (Brooks et al., 2020).

Additionally, a seven-week MCO was employed, containing four phases, followed by a five-week conditional MCO (CMCO) in order to flattening the cases. These MCO phases were established by the Malaysian government after taking into consideration the livelihoods of communities and the overall stability of the country's economic system and only critical business/services/premises were allowed to continue operating under the MCO phases (Gassman-Pines et al., 2020). In addition, other service sectors, including schools and higher education institutions, were forced to stop all physical activity. Apart from that, mass gatherings for religious, sports, social, and cultural activities were prohibited, all places of worship were closed, including mosques, churches, and temples, restaurants were prohibited from providing dine-in services, public transportation hours were restricted, and only one person per household was permitted to leave the house for daily necessities and medical care. During five weeks of CMCO, most economic sectors experienced a relaxation of regulations, with company standard operating procedures (SOPs) comprising physical separation, temperature checks, and the recording of client names and contacts (Gassman-Pines et al., 2020). However, all schools and educational institutions remained closed. This resulted in several universities changed their learning system and resumed the learning activity via remote and online teaching methods. Since there are big and sudden changes in learning system and lifestyle, the students might experience a negative impact on their emotional and psychological well-being. Therefore, there is a need of study to investigate to which extent does the students' quality of life impacted by the pandemic state. Since there were various phases and SOPs been introduced by the Government, therefore this study aims to ask the opinion from young adult especially the university students on their quality of life during MCO and CMCO phases. The objective of this study was

- To measure the differences in quality of life between Movement Control Order phase and Conditional Movement Control Order phase among collegiate students

Methodology

Cross-sectional design using online survey was used in this study to collect the data. All samples were recruited using snowball sampling method from both public and private universities. Data collection took place within 23 days from 12th April 2020 and ended on 12th May 2020 (MCO phase) and 8 days from 12th May 20202 and ended on 20th May 2020 (CMCO phase).

Participants

A total of 1,005 responses were retrieved from various public and private universities; however, 482 respondents were failed to answer the question during CMCO making a final of

523 usable responses. Their participation was voluntary for both phases. All the students who able to understand English and with no history of psychiatric/mental disorders were eligible to participate.

Procedure

Since all the universities were closed during pandemic, an online survey using a google form was created to collect the data. The google form was sent in a link and QR code form through various social media platform such as Facebook, Twitter, WhatsApp, and email. Both link and QR code was sent randomly to all students in all states. When the respondent clicks the link or scan the QR code, it directed to the research information page and consent form. The details of the research were explained briefly in the information page while the consent form was clearly stated on the expectations and commitments to the project which they will be asked again to answer the questionnaire in a month period. All respondents must click "I Agree" after they have read thoroughly the consent form. Then, the next page of the form will be the demographic and SF-36 QoL questions. The survey was designed in English only. Once the students answered the questionnaire in MCO phase, they have been contacted again in CMCO phase to answer the questionnaire again. Only completed answered questionnaire for both phases from the same respondents were used for analysis.

Instruments

This study measures the Quality of Life (QoL) among Malaysian university students by using the 36-Items Short Form Health Survey (SF-36), which divided into eight domains of QoL; (i)physical functioning (PF), (ii)physical role functioning (RF), (iii)bodily pain (BP), (iv)general health perceptions (GH), (v)vitality (V), (vi)social role functioning (SF), (vii)emotional role functioning (EF), and (viii)mental health (MH). The data were scored by using the scoring rules for the RAND 36-Item Health Survey. The questionnaire consists of both demographic (age, gender, ethnicity, University, program, level of study, year of study and history of psychiatric/mental disorders check) and SF-36 QoL questions. Moderate to high reliability was reported for each component in SF-36 Qol questionnaire (PF=0.89, RF=0.87, BP=0.89, GH=0.85, V= 0.84, SF=0.52, EF=0.84, MH=0.82).

Data analysis

Data were analyzed with IBM statistic version 26. Descriptive statistics were analyzed using measures with frequencies with percentages for categorical variables (n, %). Wilcoxon signed rank test were used for comparing medians between MCO and CMCO QoL result due to the samples were not normally distributed.

Results

Respondents' characteristics

Of all 523 respondents, 57.6% (n=301) of them were female and 42.4% (n=222) were male. Table 1 below showed the demographic characteristics analyzed in all respondents.

Table 1
Demographic characteristics of Respondents

Characteristics	Frequency	Percentage (%)
Gender		
Male	222	42.4
Female	301	57.6
Total	**523**	**100.0**
Age (years old)		
18 – 25	344	65.8
26 – 33	163	31.2
> 33	16	3.1
Total	**523**	**100.0**
Ethnicity		
Malay	247	47.2
Chinese	229	43.8
Indian	47	9.0
Total	**523**	**100.0**
University		
Public	229	43.8
Private	294	56.2
Total	**523**	**100.0**
Program		
Science and Technology	292	55.8
Social Sciences	231	44.2
Total	**523**	**100.0**
Level of Study		
Diploma/Certificate	199	38.0
Degree	308	58.9
Postgraduate	16	3.1
Total	**523**	**100.0**
Years of Study		
Year 1	142	27.2
Year 2	326	62.3
Year 3	55	10.5
Total	**523**	**100.0**

Quality of Life

Table 2 below illustrated the mean and standard deviation in all the quality of life domains. From the table, it shows that there was an improvement in all domains during CMCO phase compared to MCO phase.

Table 2
Mean and standard deviation for Quality of Life

MCO phase	Mean	Standard Deviation	CMCO phase	Mean	Standard Deviation
Total Physical Health	47.22	5.61	Total Physical Health	51.95	6.40
Total Mental Health	42.29	7.23	Total Mental Health	47.10	7.02
Physical Functioning	73.60	17.94	Physical Functioning	86.20	16.67
Physical Role Functioning	61.64	17.89	Physical Role Functioning	76.04	18.40
Bodily Pain	61.69	16.50	Bodily Pain	71.35	17.15
General health	55.14	14.60	General health	66.66	18.16
Vitality	55.02	12.35	Vitality	65.21	14.33
Social Role Functioning	55.87	15.97	Social Role Functioning	72.69	17.04
Emotional Role Functioning	60.36	19.29	Emotional Role Functioning	74.85	18.61
Mental Health	65.85	13.90	Mental Health	71.34	14.32

A Wilcoxon signed-rank test (Table 3) indicated that there was a significant difference in students' quality of life between MCO and CMCO phase. It was revealed in comparison to CMCO phase, the students reported lower in PF (Z = -13.79, p <.001), RF (Z = -13.59, p <.001), BP (Z = -11.64, p <.001), GH (Z = -12.97, p <.001), V (Z = -13.15, p <.001), SF (Z = -15.19, p <.001), EF (Z = -13.71, p <.001), and MH (Z = -8.47, p <.001) during MCO. In overall university students' quality of life, a better score was shown in physical health quality of life (Z = -13.94, p <.001) and mental health quality of life (Z = -13.21, p <.001) during CMCO compared to MCO phase.

Table 3
Comparison between Quality of Life during CMCO and MCO

Domains	z	Sig.
Total Physical Health	-13.938	.000
Total Mental Health	-13.212	.000
Physical Functioning	-13.792	.000
Physical Role Functioning	-13.586	.000
Bodily Pain	-11.637	.000
General health	-12.967	.000
Vitality	-13.147	.000
Social Role Functioning	-15.186	.000
Emotional Role Functioning	-13.714	.000
Mental Health	-8.466	.000

Discussion

The COVID-19 epidemic has had a significant impact on people's daily lives and has had far-reaching implications (healthcare, economic, and social) for people from all ages (Haleem, Javaid & Vaishya, 2020; Kremer, 2016; Lee, 2020; Liang et al., 2020; Musa et al., 2021; Pan, 2020). The purpose of this study was to obtain the perspectives of young adults who are currently enrolled as university students. The respondents were asked to complete a

questionnaire in both MCO and CMCO phases, and the results were processed to determine the influence of both lockdown measures and restricted access to public spaces on the students' quality of life.

According to the findings of this study, there is a statistically significant change in students' quality of life following different phases of MCO. The students showed an improvement in both physical and mental health during CMCO phase compared to MCO phase. This could be due to there was a relaxation of restrictions to most economic sectors, with business standard operating procedures (SOPs), including physical distancing, temperature checks, recording the names and contacts of customers during CMCO (Gassman-Pines et al., 2020). Other possible reason of improvement score in QoL during CMCO phase also could be due to the students slowly get used to the changes occur in their life such as performed indoor activities more, spend more time with families and others.

In the meantime, during MCO only major companies were permitted to function, while most services sectors, including schools and colleges, halted all physical activity (Gassman-Pines et al., 2020). Limited access to public spaces during the first phase of MCO was found to be significantly associated with a reduction in the psychological well-being of the students (Patrick et al., 2020). Previous study reported that the significant decrease in the frequency of visits to open and closed public spaces, and the resulting decline in physical and social activities (human interactions) had a highly negative impact on their psychological well-being and mood (Qiu et al., 2020).

Although there was an improvement in the QoL score in CMCO phase, however the score was below than average (below 50). This is not a good indicator of one's quality of life. The low score gained for both physical and mental health among the students might be due to the state of isolation since the first phase of MCO. A rapid review of previous outbreaks indicates that isolation or restricted access measures have a detrimental effect on an individual's physical and psychological health, including posttraumatic stress symptoms, confusion, and anger caused by a variety of conditions, including fears of infection, frustration, boredom, insufficient supplies or information, financial loss, and stigma (Rodriguez-Rey et al., 2020).

According to recent study (Salim et al., 2020), young adults and educated individuals are particularly prone to physical and emotional suffering. Furthermore, interrupted daily life and delays in academic activities were positively associated with a decline in students' mental health (Sundarasen et al., 2020), increased sadness, and conflict (Szczepańska & Pietrzyka, 2021). The absence of daily contacts with friends during visits to bars, gyms, parks, and swimming pools was a distressing experience which had a negative impact on the respondents' social lives and social interactions (Qiu et al., 2020). Recent studies (Pan, 2020; Patrick et al., 2020) on COVID-19 pandemic also provide evidence on negative impact towards mental health. Additionally, the sudden changes on daily living during pandemic pointing to the degrading quality in health and well-being (Pan, 2020). Other than the sudden changes in daily living, there are various factors such as uncertainty of graduation, fear of dormitory evacuation, fear of losing future job that might contribute to the deterioration of students' well-being (Tull et al., 2020; Varma et al., 2021). Therefore, it is recommended for future study to measure on factors that could influence student's health well-being during pandemic.

Conclusion

The World Health Organization's declaration of a pandemic was followed by a series of actions that altered people's cognitive and behavioural processes as well as their social and

economic contexts. Future effects of this crisis are likely to include modifications to a variety of deeply ingrained cultural practices, particularly regarding interpersonal relationships and close physical proximity. Without a doubt, the pandemic will have a significant impact on society and have a negative impact on the mental health of many people.

People are currently being urged to stay inside their homes across the world. Being at home might elicit conflicting emotions and induce anxiety when it is not an option but rather a requirement. The quarantine can make people feel anxious and depressed, especially those who are totally alone. This study found that variance experiences through the COVID-19 pandemic faced by the university students during both phases of MCO and CMCO were noted to have an impact on their quality of life. Although their quality of life score showed an improvement in CMCO phase, however the score is still consider low. From the pattern of changes in quality of life among the students between two phases, it can be assumed that the students' quality of life might improve from time to time following the positive changes in MCO SOPs and their acceptance towards it.

The emerging infectious disease pandemic has significant implications for clinical and public healthcare, as well as having a major impact on economic trends in almost all sectors. Furthermore, students' mental health should be taken into consideration during pandemics or other emergency situations. Anxiety and other factors can decrease people's quality of life, in conjunction with the pandemic's social and economic consequences.

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