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THE IMPACT OF THE MOVEMENT CONTROL ORDER PHASES ON THE QUALITY OF LIFE AMONG MALAYSIAN UNIVERSITY STUDENTS

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ABSTRACT

This study measured the impact of the different phases during movement control order on the quality of life among local Malaysian university students aged >18 years old. An online survey was distributed through a social media platform during the 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 the 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 the MCO and CMCO phases. It was revealed in comparison to the 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 ($Z = -13.98$, $p < .001$) 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 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, CMC*

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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, Zambare & Naik, 2020). Due to a lack of definitive treatment and limited information on innovation and the dangers of this virus, coronaviruses have become a difficult and truly strenuous scenario for all global experts (Bhusare, Zambare & Naik, 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 localised clusters began to appear substantially, 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 (Salim et al., 2020). The implementation of MCO has forced and encouraged people to stay at home.

Additionally, a seven-week MCO was employed, containing four phases, followed by a five-week conditional MCO (CMCO) to flatten 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 businesses/services/premises were allowed to continue operating under the MCO phases (Musa et al., 2021). 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 the 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 (Musa et al., 2021). However, all schools and educational institutions remained closed. This resulted in several universities changing their learning system and resuming the learning activity via remote and online teaching methods. Since there are big and sudden changes in the learning system and lifestyle, the students might experience a negative impact on their emotional and psychological well-being. Therefore, there is a need for a study to investigate to what extent the students' quality of life is impacted by the pandemic state. Since there were various phases and SOPs introduced by the Government, therefore this study aims to ask the opinion of young adults, especially university students on their quality of life during MCO and CMCO phases.

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METHODOLOGY

Pretest-posttest randomised design using online surveys was used in this study to collect the data. All samples were recruited using snowball sampling methods 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 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 were able to understand English and with no history of psychiatric/mental disorders were eligible to participate.

Data Collection

Since all of the universities were closed during the 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 platforms such as Facebook, Twitter, WhatsApp, and email. Both the link and QR code were sent randomly to all students in all states. When the respondent clicks the link or scans the QR code, it is directed to the research information page and consent form. The details of the research were explained briefly on the information page while the consent form clearly stated the expectations and commitments to the project which they will be asked again to answer the questionnaire in a month. All respondents have to click "I Agree" after they have read 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 the MCO phase, they were contacted again in the CMCO phase to answer the questionnaire again. Only completed answered questionnaires for both phases from the same respondents were used for analysis.

Instrument

This study measures the Quality of Life (QoL) among Malaysian university students by using the 36-Items Short Form Health Survey (SF-36), which is 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 the 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).

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Data Analysis

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

RESULTS

Respondents' Characteristic

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 analysed in all respondents.

Table 1. Demographic characteristics of Respondents

Characteristics	Frequency	Percentage (%)
Male	222	42.4
Female	301	57.6
Total	523	100.0
18 – 25	344	65.8
26 – 33	163	31.2
> 33	16	3.1
Total	523	100.0
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

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Social Sciences	231	44.2
Total	523	100.0
Diploma/Certificate	199	38.0
Degree	308	58.9
Postgraduate	16	3.1
Total	523	100.0
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 (M) and standard deviation (SD) in all the quality of life domains. The table shows that there was an improvement in all domains during the CMCO phase compared to the MCO phase.

Table 2. Mean and standard deviation for Quality of Life

MCO phase	M	SD	CMCO phase	M	SD
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

To test the difference between overall QoL for the MCO and CMCO phases, the Wilcoxon signed-rank test was used since the data was not normally distributed. Table 3 below

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indicated that there was a significant difference in students' quality of life between the MCO and CMCO phases. In comparison to the MCO phase, the students improved in all 8 domains of quality of life which are 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 CMCO. 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-value	Sig. value
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 of all ages (Gassman-Pines, Ananat & Fitz-Henley, 2021; Haleem, Javaid & Vaishya, 2020; Patrick et al., 2020; Rodríguez-Rey, Garrido-Hernansaiz & Collado, 2020; Qiu et al., 2020; Tull et al., 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 during 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 as well as in all 8 domains of QoL during the CMCO phase compared to the MCO phase. This could be due to a relaxation of restrictions to most economic sectors, with business standard operating procedures (SOPs), including physical distancing, temperature checks, and recording the names and contacts of customers during CMCO (Musa et al., 2021). Other possible reasons for the improvement in QoL during

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the CMCO phase also could be due to the students slowly getting used to the changes occurring in their life such as performing indoor activities more and spending more time with families and others. Furthermore, the improvement in physical functioning could be one of the factors of improvement in total QoL.

In the meantime, during MCO only major companies were permitted to function, while most services sectors, including schools and colleges, halted all physical activity (Musa et al., 2021). 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 (Sundarasen et al., 2020). A 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 (Szczepańska & Pietrzyka, 2021).

Among all of the 8 domains in QoL, this study found that there are greater improvements in physical functioning. This could be due to the changes made in the student's daily activities since MCO started. This was supported by a previous study (Ziapour & Kianipour, 2018) where practising a healthy daily lifestyle played a positive role in improving physical functioning as well as the quality of life. Additionally, the lowest improvement found in this study was in the mental health domain. This could probably be due to the lack of positive feelings about the future, happiness, balance, and hopefulness among themselves following the COVID-19 situation. As of the 17th of April 2020, there were 5,251 COVID-19 cases including 86 deaths reported by the Ministry of Health (MOH) in Malaysia (Ministry of Health Malaysia, 2019) which could be a possible reason that the respondents feel scared and lack positive feelings throughout the MCO phases.

Although there was an improvement in the QoL score in the CMCO phase, the mean score was below 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 (Brooks et al., 2020).

According to a recent study (Varma et al., 2021), 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 (Liang et al., 2020), increased sadness, and conflict (Kremer, 2016). The absence of daily contact 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 (Szczepańska & Pietrzyka, 2021). Recent studies (Tull et al., 2020; Sundarasen et al., 2020) on the COVID-19 pandemic also provide evidence of a negative impact towards mental health. Additionally, the sudden changes in daily living during the pandemic point to the degrading quality of health and well-being (Tull et al., 2020). Other than the sudden changes in daily living, there are various factors such as uncertainty of graduation, fear of dormitory evacuation, and fear of losing future jobs that might contribute to the deterioration of students'

well-being (Lee 2020; Pan, 2020). Therefore, it is recommended that future study to measure factors that could influence students' health, well-being and also their academic performance during a pandemic.

CONCLUSION

In conclusion, diverse experiences through the COVID-19 pandemic faced by 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 the CMCO phase, the score is still considered low. From the pattern of changes in quality of life among the students between the two phases, it can be assumed that the student's quality of life might improve from time to time following the positive changes in MCO SOPs and their acceptance towards it.

Conflict of Interest

All authors declare that they have no conflicts of interest in the research.

Author's Contribution

Maisarah Shari, Nurul Ain Abu Kasim, and Rozella Ab Razak conceived the idea and collected the data. Nur Atikah Mohamed Kassim and Siti Jameelah Md Japilus analysed the data and proofread it. Raja Nurul Jannat Raja Hussain wrote the manuscript.

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Malaysian Journal of Sport Science and Recreation
Vol. 19. No. 2. 322 - 332, 2023.
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