


BMJ Open Psychosocial impact of COVID-19 pandemic on Malaysian families: a cross-sectional study

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ABSTRACT

Objective To investigate the psychosocial impact of COVID-19 on Malaysian families.

Design A cross-sectional study performed using an anonymous online questionnaire distributed through social media, email and the Department of Social Welfare.

Setting Malaysian families were invited to answer the questionnaires. The sampling was performed between 12 May 2020 and 9 June 2020.

Intervention The psychological impact was assessed using the Impact of Event Scale-Revised (IES-R) and Children's Revised Impact of Event Scale (CRIES). The mental health status was assessed using the Depression, Anxiety and Stress Scale (DASS) 21.

Main outcome measure (1) Psychological impact on Malaysian families. (2) Prevalence of mental health status of Malaysian families during COVID-19 pandemic.

Result A total of 409 Malaysian families have responded (409 parents and 348 children), 154 respondents (38%) reported high psychological impact (score 14) for psychological construct and 189 respondents (46%) reported high psychological impact (score 6) for behavioural construct. A significantly higher proportion of respondents with not permanent employment status of the family lead reported high psychological impact. The prevalence of anxiety reported from family respondents was 23%. Forty-five children answered the DASS-21 questionnaire; 28.5% reported anxiety, 31.4% reported depression and 13.3% reported stress. The job security status of the family lead was found to be the predictive factor for the mean total IES-R score (psychological construct) and ethnicity for mean total CRIES-8 and CRIES-13.

Conclusion Rates of depression and anxiety during the COVID-19 pandemic were high. Findings suggest that urgent measures to ensure job security among Malaysian families are important to reduce the impact of the COVID-19 pandemic on psychosocial and mental health outcomes.

INTRODUCTION

SARS-CoV-2 was first reported in Wuhan District, China, in December 2019 and spread worldwide to cause a global pandemic.¹ Malaysia is situated in Southeast Asia with a total population for the first quarter of 2021

Strengths and limitation of this study

- A nationwide cross-sectional study performed using an anonymous online questionnaire.
- The first study investigates the psychosocial impact on Malaysian family units using data from both parent and children respondents.
- Snowballing sample strategy.
- Accessibility to the internet for respondents is one of the limitations and may affect the generalisability of the study.

estimated at 32.75 million with gross domestic product per capita of US\$11 217 and life expectancy at 72.6 years (man) and 77.6 years (woman).² Malaysia reported its first COVID-19 case on 25 January 2020.³ Crisis Preparedness and Response Centre (CPRC) under the Ministry of Health of Malaysia was formed as a medium to disseminate information, such as daily updates on the numbers of positive cases and mortality.⁴ The numbers of daily new cases and new recovered cases of COVID-19 in Malaysia across different phases of Movement Control Order (MCO) from 25 January until 10 June 2020 are illustrated in [figure 1](#). On the latest update on 13 February 2021, CPRC recorded 261 805 positive COVID-19 cases and the total death of 958 patients in Malaysia.

A nationwide MCO (national lockdown) was imposed on 18 March 2020, as part of measures to curb and mitigate the spread of the COVID-19 virus in the community. The implementation of lockdown was later relaxed to Conditional MCO (CMCO) from 1 May until 6 June 2020. Several relaxations of regulation were allowed, such as reopening of economic sectors while adhering to strict rules of physical distancing, hand hygiene practice and no interstate travelling. Educational sectors remained closed. At this time, most people were still confined in their

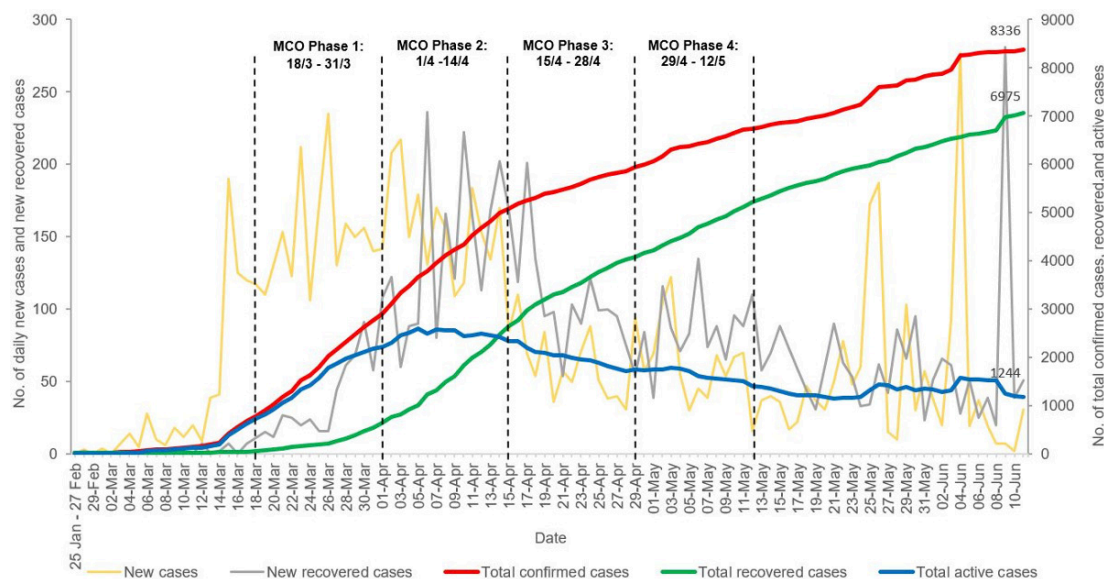


Figure 1 The numbers of daily new cases and new recovered cases of COVID-19 in Malaysia across different phases of Movement Control Order (MCO) from 25 January 2020 until 10 June 2020.

homes with their children in a limited space. Lockdown risks include job loss, demanding access to medical attention, time loss in education, susceptibility to domestic violence and decreased family support system.^{5,6} Parents may face vast challenges of coordinating between working from home, managing their children's home schooling (online learning) and social isolation simultaneously. All these may worsen the psychological and mental health of family members.⁷

The COVID-19 pandemic presents many challenges for families dealing with the lockdown effect. Data from a longitudinal study measuring changes in adult mental health in the UK showed a decline in mental health comparing before and after COVID-19 lockdown with a higher risk of mental distress among the youth, women and those living with young children (especially preschool-age children) during the pandemic.⁸ A study reported that higher parental perceived stress is associated with greater COVID-19-related stressors and higher anxiety and depressive symptoms.⁹ A recent study reports the prevalence of anxiety of 67%, stress of 70% and depression of 42.3% among Malaysian adults.¹⁰ Despite various data and publications on the psychosocial impact of the COVID-19 pandemic on families, there is a lack of Malaysian data regarding the psychosocial impact and support for families during the pandemic. Hence, we explore the psychosocial impact and mental health among families in Malaysian public communities (parent, adolescents and children) in coping with the COVID-19 pandemic.

This study aimed to investigate the psychosocial impact and mental health among families in Malaysian public communities in coping with the COVID-19 pandemic, regardless of the stages of lockdown (ie, MCO or CMCO). We hypothesised that lower socioeconomic status, female gender, lower educational attainment and job security

uncertainty might adversely influence the psychosocial impact on Malaysian families.

METHODS

Study design and participants

This is a cross-sectional study performed using an anonymous online questionnaire form distributed through social media (Facebook, Twitter and WhatsApp messaging) and a list of staff emails in the university where all the researchers were based. The online questionnaire forms were also distributed to the general population through the help of the Department of Social Welfare of Malaysia (Jabatan Kebajikan Masyarakat Malaysia). Study participants included Malaysian families (parents and their children) who are literate in the Malay language. The snowballing sampling strategy was employed as all participants were encouraged to invite their friends and families to answer the questionnaires. The sampling was performed between 12 May 2020 and 9 June 2020, which correlated with the CMCO by the Malaysian government. This study was approved by human ethics committee of Universiti Sains Malaysia (USM/JEPeM/COVID19-18), and all participants consented to be involved in this study. The sample size was calculated using a single mean formula to estimate the Depression, Anxiety and Stress Scale (DASS) 21 score from the Malaysian public with a margin of error equal to 2.¹¹ The estimated respondent number with 20% of non-response rate needed was 485 families.

Study instrument

The psychological impact on the participants was assessed using the translated and validated Impact of Event Scale-Revised (IES-R) in the Malay language.¹² The Children's Revised Impact of Event Scale (CRIES) in the Malay

language was used for participants aged between 5 and 18 years old (CRIES-8=children aged 8–12 years old and CRIES-13=adolescent aged 13–18 years old).¹³ The Malay-translated version of IES-R consisted of 19 question items and was used for the self-report questionnaire to measure subjective response to a specific traumatic event in an adult population.¹⁴ It has previously been demonstrated to have good psychometric properties, composite reliability and positively correlated with DASS-21-M.¹⁴ It consists of two domains, psychological (13 questions) and behavioural (six questions). Likert Scale measurement was used to document the severity of subject response, ranging from 0 (not at all), 1 (a little bit), 2 (moderately), 3 (quite a bit) and 4 (extremely). Total scores were calculated according to each domain, and higher scores indicate a higher level of stress for each domain. The cut-off point for post-traumatic stress disorder in adults was more than 14 for psychological construct and more than 6 for behavioural construct.¹⁴

CRIES-8 and CRIES-13 were modified versions of IES-R targeting children respondents with good internal consistency and construct validity.¹³ CRIES-8 consists of two subscales that were intrusion (sums of items 1, 3, 6 and 7) and avoidance (sums of items 2, 4, 5 and 8). CRIES-13 consists of three subscales that were intrusion (sums of items 1, 4, 8 and 9), avoidance (sums of items 2, 6, 7 and 10) and arousal (sums of items 3, 5, 1, 12 and 13). Specifically, for the scoring interpretation of CRIES-8 and CRIES-13, higher mean scores indicate greater trauma, and a mean of total scores equal to or more than 17 (sum of intrusion and avoidance) is predictors for post-traumatic stress disorder in children (Diagnostic and Statistical Manual of Mental Disorders (DSM) diagnosis).¹⁵

The mental health status was assessed using the translated and validated DASS-21 in the Malay language.¹⁶ The adolescent version of DASS-21 was used for participants aged between 13 and 18 years old.¹⁷ It consists of 21-item self-report questionnaire with three subscales measuring depression (sums of items 3, 5, 10, 13, 16, 17 and 21), anxiety (sums of items 2, 4, 7, 9, 15, 19 and 20) and stress (sums of items 1, 6, 8, 11, 12, 14 and 18). The sums of all subscale items in DASS-21 were calculated and multiplied by two to get the final score for each subscale. An overall score cut-off point for each subscale is as follows: depression subscale, an overall score of ≥ 14 indicates moderate to severe depression, an overall score of ≥ 10 indicates moderate to severe anxiety and an overall score of ≥ 19 indicates moderate to severe stress.¹⁶

Patient and public involvement

No patient or a public member was involved in the design, conduct, reporting or dissemination of this study.

Data collection

Basic demographic data (gender, city of living, children's age, their relationship to the child, ethnicity, total household income, medical illnesses, highest educational attainment, employment status of the head of the family

and whether they received any financial aid from the government) were collected (online supplemental file 1). Respondents' living conditions were enquired (numbers of individuals living in a house, bedrooms per house and access to outdoor space). The respondents' experience related to COVID-19 was also enquired as follows: contact history with COVID-19 positive cases, concern about COVID-19, preventive measures taken against COVID-19 and information on participants' knowledge on COVID-19 were collected.

Respondents were invited to leave their contact number or email if they want to discuss further with the research team member about any issues or help. There were no free-text comments/sections on the questionnaire.

Statistical analysis

Descriptive statistics, mean (SD) for numerical variables and frequency (percentage for categorical variables) were calculated for the sociodemographic characteristics. All the basic information was collected, including contact history variables, knowledge, concern-related precautionary measure variables and additional health information variables. The scores of IES-R, CRIES-8 and CRIES-13 subscales were calculated and expressed as mean and SD. Simple and multiple linear regression was used to determine the univariate associations between factors associated with the subjects' psychological impact and mental health status. Statistical analysis was performed using STATA SE V.16.

RESULT

Sociodemographic

A total of 409 Malaysian families from 14 states of Malaysia responded and answered all the online questionnaires (409 parents and 348 children) completely, contributing to 84% of the respondent rate. The majority were women (70.9%), and 40.8% of child participants were between 7 and 12. Participants according to race were Malay (77.5%), Sabah Bumiputera (13.5%), Chinese (5.1%), Indian (1.7%), Sarawak Bumiputera (1.2%) and others (0.9%). Most of the participants were from East Malaysia (81.2%), followed by West Malaysia (18.8%). More than half of the parent participants possessed a tertiary education level, were middle class and had high socioeconomic status. With regard to the employment status of the head of families interviewed, 77% were permanently employed, 13.9% were temporarily employed, 6.1% were employed on a contract basis and 2.9% were unemployed. **Table 1** lists further details about the demographic characteristics of the participants.

Psychological impact (parents and children)

The overall mean score for IES-R in parent reports was 11.5 ± 10.4 (psychology construct) and 5.8 ± 5.0 (behaviour construct). From the overall 409 respondents, 255 respondents (62%) reported normal impact (score < 14), 154 respondents (38%) reported high impact



Table 1 Sociodemographic of all the participants involved in the study and association with IES-R

Variables	Parent respondent n=409 n (%)	Total IES-R Psychology Construct		Total IES-R behaviour construct		Stress—psychological construct		Stress—behaviour construct			
		Mean (SD)	P value	Mean (SD)	P value	Normal n (%)	High n (%)	P value‡	Normal n (%)	High n (%)	P value‡
All participants	409	11.5 (10.4)	–	5.7 (5.0)	–	255 (62)	154 (38)	–	220 (54)	189 (46)	–
Gender											
Male	119 (29.1)	10.4 (9.8)	0.21*	5.3 (4.8)	0.27*	78 (65)	41 (34)	0.39‡	69 (58)	50 (42)	0.27‡
Female	290 (70.9)	11.8 (10.6)		5.9 (5.1)		177 (51)	113 (39)		151 (52)	139 (48)	
Children age group											
<7 years old	124 (30.3)	11.4 (9.9)	0.82‡	5.8 (5.1)	0.44‡	80 (65)	44 (35)	0.70‡	73 (59)	51 (41)	0.18‡
7–18 years old	247 (60.4)	11.8 (11.3)		5.3 (4.9)		15 (61)	97 (39)		131 (53)	116 (47)	
>18 years old	38 (9.2)	10.6 (10.2)		6.5 (4.9)		25 (65)	13 (34)		16 (42)	22 (58)	
Ethnicity											
Malay and Bumiputera	377 (77.5)	11.5 (10.3)	0.41‡	5.8 (5.0)	0.52‡	234 (62)	143 (38)	0.78‡	202 (54)	175 (46)	0.98‡
Chinese	21 (5.1)	8.6 (10.5)		4.2 (5.0)		15 (71)	6 (29)		12 (57)	9 (43)	
Indian	7 (1.7)	12.0 (9.3)		5.1 (3.3)		4 (57)	3 (43)		4 (57)	3 (43)	
Others	4 (1.0)	17.5 (14.5)		6.5 (4.2)		2 (50)	2 (50)		2 (50)	2 (50)	
Education level											
Without tertiary education	59 (14.4)	12.8 (11.2)	0.28*	6.0 (0.7)	0.61*	35 (59)	24 (41)	0.60‡	30 (51)	29 (49)	0.62‡
With tertiary education	350 (85.6)	11.2 (10.3)		5.7 (4.9)		220 (63)	130 (37)		190 (54)	160 (46)	
Job security											
Permanent employment	315 (77.0)	10.8 (10.2)	0.02*	5.5 (5.0)	0.06*	204 (65)	111 (35)	0.06‡	177 (56)	138 (44)	0.07‡
Not permanent employment	94 (23.0)	13.6 (10.8)		6.6 (4.9)		51 (54)	43 (46)		43 (46)	51 (54)	
Geographical location											
East Malaysia	332 (81.2)	11.5 (10.3)	0.99*	5.8 (4.9)	0.51*	204 (61)	128 (39)	0.43‡	173 (52)	159 (48)	0.15‡
West Malaysia	77 (18.8)	11.5 (10.9)		5.4 (5.3)		51 (66)	26 (34)		47 (61)	30 (39)	
Socioeconomic status²⁷											
Below RM 4360 (bottom 40% or lower class)	112 (27.4)	12.7 (11.1)	0.23‡	6.3 (5.3)	0.27‡	67 (60)	45 (40)	0.80‡	55 (49)	57 (51)	0.80‡
Between RM 4360 and RM 9619 (middle 40% or middle class)	137 (33.5)	11.4 (10.1)		5.7 (4.8)		86 (63)	51 (37)		74 (54)	63 (46)	
More than RM 9619 (top 20% or upper class)	160 (39.1)	10.6 (10.1)		5.3 (4.9)		102 (64)	58 (36)		91 (57)	69 (43)	

*T-test.
 †ANOVA.
 ‡ χ^2 analysis.
 ANOVA, Analysis of Variance; IES-R, Impact of Event Scale-Revised; RM, Ringgit Malaysia.

Table 2 Result of CRIES-8 and CRIES-13 from this study.

	Children respondent CRIES-8, n=303, mean (SD)	Adolescent respondent CRIES-13, n=45, mean (SD)
Total score	9.7 (9.5)	8.8 (8.1)
Intrusion score	4.5 (4.6)	5.1 (4.0)
Avoidance score	5.1 (5.8)	3.7 (4.9)
Hyperarousal score	–	5.0 (5.4)

CRIES, Children's Revised Impact of Event Scale; IES-R, Impact of Event Scale-Revised.

(score > 14) for psychological construct, 220 respondents (54%) reported normal impact (score < 6) and 189 respondents (46%) reported high impact (score > 6) for behavioural construct. As listed in [table 1](#), respondents reported varying degrees of impact of a psychological and behavioural construct according to different subcategories of factors such as gender, children age in the families, ethnicity, education level of respondents, the job security status of the head of the family, geographical location of residency in Malaysia and socioeconomic status of the families.

A total of 303 children aged between 8 and 12 years old and 45 adolescents aged between 13 and 18 years old answered CRIES-8 and CRIES-13 questionnaires, respectively. All child respondents declared doing the questionnaire with an adult present. The overall mean score for CRIES-8 respondents and CRIES-13 respondents was 9.7±9.5 and 8.8±8.1, respectively. The CRIES-8 and CRIES-13 mean scores for the intrusion score and avoidance score are listed in [table 2](#). Seventy-seven (25.4%) CRIES-8 respondents and seven (15.6%) CRIES-13 respondents reported a total score >17, which may indicate the clinical level of trauma as a result of COVID-19.

Mental health status (parent and children)

The prevalence of anxiety reported by adult respondents was 23% and was higher among female respondents (25.9%) ([table 3](#)). Eighty-five (20.7%) adult participants reported depression, and 62 (15.2%) participants reported stress. Approximately 45 children answered the DASS-21 questionnaire, and ten children (28.5%) reported anxiety, eleven children (31.4%) reported depression and five children (13.3%) reported stress.

Table 3 Result of DASS-21 (parent and adolescent report)

Component	Prevalence of families report			Prevalence of adolescent report
	Total (n=409) n (%)	Man (n=119) n (%)	Woman (n=290) n (%)	Total (n=45) n (%)
Anxiety	94 (23)	19 (16)	75 (25.9)	10 (28.5)
Depression	85 (20.7)	23 (19.3)	62 (21.4)	11 (31.4)
Stress	62 (15.2)	13 (10.9)	49 (16.9)	5 (13.3)

DASS, Depression, Anxiety and Stress Scale.

Sociodemographic variables and psychological impacts

The sociodemographic factors that may influence the psychological impacts on families during the COVID-19 pandemic were further analysed in detail in [table 1](#). Family respondents with family heads/leads who were permanently employed reported a significantly lower ($p=0.01$) mean total score of IES-R (psychological construct) compared with those who reported no job security (defined as employed but not permanent, contract employment and unemployed). No significant difference in the mean total score of IES-R was noted among the gender of the respondents, children's age in the families, ethnic races, Malaysian geographical location, socioeconomic status and education level.

Multiple linear regression was performed to predict the total IES-R score (psychological construct) of parent respondents from gender, children's age in the families, ethnicity, education level, job security/employment status and socioeconomic status. Job security variable showed significance in predicting the total IES-R score compared with other factors ([table 4](#)). As a comparison, we performed a multiple linear regression to predict the total CRIES score (both CRIES-8 and CRIES-13), and a significant predictive factor identified was ethnicity ([table 5](#)).

DISCUSSION

This study is the first in Malaysia to assess the psychological impact of the COVID-19 pandemic on Malaysian families (parents and children). Most Malaysian data focus on specific target populations, such as Malaysian adults, university students and healthcare workers.^{10 18–20}

A total of 154 parent respondents (38%) reported high impact (psychological construct), and 189 parents (46%) reported high impact (behavioural construct), with a significantly higher proportion of those who were not permanently employed affected. Differences in psychological impact mean scores are found between families with permanent employment and other non-permanent employment (defined as not permanent employment, contract employment and unemployment). Consistent with our hypotheses, we show that job security of the family lead is the main predictive factor in psychological impact. According to the latest unemployment rate published by the Department of Statistics, Malaysia has risen to 5.1% in the second quartile of 2020 compared

Table 4 Multiple regression analysis of factors predictive of total IES-R psychological domain stressor score (parent respondent)

Variables	Coefficient	Standardised coefficient (beta)	SE	P value	95% CI
Constant	10.6	–	2.4	0.00	5.9 to 15.4
Gender					
Male	Ref	–	–	–	–
Female	1.22	0.05	1.14	0.28	–1.03 to 3.47
Children age group					
>18 years old	Ref	–	–	–	–
<7 years old	0.89	0.03	1.98	0.65	–3.01 to 4.81
7–18 years old	0.57	0.02	1.85	0.75	–3.06 to 4.22
Ethnic					
Malay	Ref	–	–	–	–
Chinese	–2.73	–0.06	2.36	0.25	–7.36 to 1.89
Indian	0.93	0.01	4.03	0.82	–6.99 to 8.84
Others	5.52	0.05	5.23	0.29	–4.77 to 15.82
Education level					
Without tertiary	Ref	–	–	–	–
Education levels Tertiary education levels	–0.70	–0.02	1.52	0.65	–3.69 to 2.29
Job security					
Permanent employment	Ref	–	–	–	–
Not permanent employment	2.45	0.09	1.28	0.05	–0.06 to 4.95
Socioeconomic status ²⁷					
Below RM 4360	Ref	–	–	–	–
Between RM 4360 and RM 9619	–0.43	–0.01	1.39	0.75	–3.17 to 2.30
More than RM 9619	–1.19	–0.05	1.37	0.38	–3.88 to 1.50

IES-R, Impact of Event Scale-Revised; RM, Ringgit Malaysia.

with 3.3% in 2019.²¹ Families facing the loss of a job, financial instability and social isolation concurrently are at risk of having a worse psychological impact and mental distress.²² However, other factors listed in our hypotheses, such as female gender, families with young children, educational status and low socioeconomic status, were not shown to be significantly predictive of the psychological impact.

The prevalence of anxiety, depression and stress among the parent respondents identified in this study is 23%, 20.7% and 15.2%, respectively. Our findings are much lower compared with the results of a recent systematic review analysis of data from Asia and Europe, which shows the prevalence of anxiety, depression and stress is 31.9%, 33.7% and 29.6%, respectively.²³ The findings may differ across countries in view of heterogeneity in each country's political and social support system. A recent multinational study examining the physical and mental health impact of adults in seven middle countries in Asia (China, Iran, Malaysia, Pakistan, the Philippines, Thailand and Vietnam) showed Thailand reported the highest levels of IES-R and DASS-21 scores and adverse

risk factors identified were age less than 30 years old, high educational status and single and separated status.²⁴

Another important finding of the study is the objective assessment of Malaysian children's psychological impact and mental distress. From our analysis, ethnicity was found to be one of the predictive factors for higher psychological impact on the children. However, this was not reflected in the parent respondent analysis. Our findings suggest that 25.4% of children aged between 8 and 13 years old and 15.6% of adolescents report a total score >17, which may indicate the clinical level of trauma resulting from COVID-19. These findings are comparatively lower than that of a recent survey in the UK, showing as high as 50%–60% of young people affected.²⁵ Our findings suggest an increase in the prevalence of depression among adolescents (31.4%) when compared with a previous Malaysian nationwide survey performed in 2017 (18.3%).¹⁷ The prevalence of anxiety is lower (28.5% vs 39.7%), but the prevalence of stress is higher (13.3% vs 9.6%).¹⁷ Parental perception of the difficulty of quarantine has been shown to have a significant effect on behavioural and emotional

Table 5 Multiple regression analysis of factors predictive of total CRIES-8 and CRIES-13 score (children respondent)

Variables	Coefficient	Standardised coefficient (beta)	SE	P value	95% CI
Constant	13.11	–	2.48	0.00	8.22 to 17.99
Children age group					
>18 years old	Ref	–	–	–	–
<7 years old	0.81	0.03	2.36	0.72	–3.82 to 5.46
7–18 years old	–0.51	–0.02	2.06	0.80	–4.57 to 3.53
Ethnic					
Malay	Ref	–	–	–	–
Chinese	–7.66	–0.16	2.43	0.002	–12.44 to –2.88
Indian	–0.09	–0.01	4.53	0.84	–9.82 to 8.02
Others	–9.31	–0.09	4.99	0.06	–19.15 to 0.51
Education level					
Without tertiary	Ref	–	–	–	–
Education levels	–0.73	–0.01	2.39	0.75	–5.44 to 3.97
Tertiary education levels					
Job security					
Permanent employment	Ref	–	–	–	–
Not permanent employment	–0.23	–0.009	1.35	0.86	–2.90 to 2.43
Socioeconomic status ²⁷					
Below RM 4360	Ref	–	–	–	–
Between RM 4360 and RM 9619	1.53	0.07	1.45	0.29	–1.32 to 4.39
More than RM 9619	–0.24	–0.01	1.42	0.86	–3.04 to 2.55

CRIES, Children’s Revised Impact of Event Scale.

issues in children.²⁶ However, this was not explored in our study.

Based on the findings of this study, several implications for health and government policies are suggested. There is an urgent need to protect those who are vulnerable to adverse impacts caused by the COVID-19 pandemic. Children’s and women’s rights should be mainstreamed and applied at all stages of a crisis. Government policies such as the ‘Prihatin (concerned) stimulus package’ should address unemployment and prevent retrenchments. Providing income support through one-off social assistance and cash transfers could be inadequate or ineffectively targeted.

This study has a few limitations. First, the questionnaires were disseminated via social media and online. Hence, those who did not have access to the internet were not reached. However, we attempted to liaise with the Department of Social Welfare of Malaysia to maximise the outreach of this study to targeted Malaysian families. Second, the sampling time frame was performed during CMCO, so there might be changes in the psychological impact over time that were not accurately captured by this cross-sectional study. We suggest a future longitudinal study to assess better and capture the temporal changes observed during a pandemic. A mixed-method study with a substantial qualitative element is suggested to allow

for a more detailed insight into issues identified to be captured. We attempted to address the language barrier issues by disseminating the questionnaires in Malay and English to all respondents.

CONCLUSION

The results highlight that a large proportion of Malaysian families is affected psychologically by the COVID-19 pandemic. Those who did not have job security are the most affected and vulnerable when dealing with the pandemic and lockdown. Psychological support intervention should be implemented and made widely accessible to the community members. The government contingency planning should involve measures sustaining job opportunities and mental health interventions to mitigate the psychosocial ill effects of COVID-19 on families.

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Contributors ZTZ and IJAH: Conceptualisation, methodology, validation, formal analysis, investigation, resources, data curation, writing—original draft, review and

editing—supervision, and project administration. MNA: Methodology, validation, formal analysis, investigation, resources, data curation, writing—review and editing—and project administration. FFAB: Methodology, validation, resources, writing—review and editing—and project administration. SS: Methodology, validation, data curation, writing—review and editing—and project administration. IAZ: Conceptualisation, methodology, validation, data curation, writing—review and editing—and project administration. EM: Conceptualisation, methodology, validation, formal analysis, data curation, writing—review and editing—and project administration.

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Patient consent for publication Not required.

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