

Mental Health status during the COVID-19 Outbreak under Movement Control Order (MCO) in Malaysia.

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Abstract– Objectives: The 2019 corona virus disease (COVID-19) is a highly communicable and contagious virus worldwide, and it is a public health emergency of international concern and poses to psychological resilience. This study aimed to survey the general public to understand their mental health status during Malaysia's Movement Control Order (MCO). **Method:** From Mar 182020, to Jun 9 2020, we conducted an online survey using the Google form sampling platform. The online survey data were collected on demographic data, physical and psychological conditions, general lifestyle, and additional information required concerning COVID-19. **Results:** Mental health impact was used Hamilton Depression Rating Scale, Hamilton Anxiety Rating Scale, Duke-UNC Functional social support Questionnaire. Results from anxiety shown the mild form of anxiety (19.14 %), moderate (11.70%), and severe (3.49%), very severe (1.46%). 64.17% have possessed no anxiety during movement control order (MCO) at home due to the COVID-19 outbreak. The overall mental health of the respondent is good (44.3%), whereas 9.8% and 1.0% give their response as fair, poor and respectively, during the movement control order (MCO) in Malaysia. **Discussion:** Our findings identify the alarming prevalence of anxiety among the general population during MCO in the COVID-19 pandemic in Malaysia. Strong social support was observed among the individual from their parents during MCO in Malaysia that showed an absence of depression.

Keywords: Movement control order; Malaysia; Mental health; COVID-19; Pandemic

Introduction

Severe acute respiratory syndrome coronavirus-2 (SARS-COV2) is the aetiology of Corona virus disease (COVID-19), emblematised as fatal and a significant concern for public health. It was initially reported in Wuhan city, Hubei province, China, in December 2019 [1]. As of Jul 3, 2020, there are 8648 COVID-19 cases found in Malaysia, where 8446 recovered and discharged from the hospital with 121. The number of COVID-19 cases spread worldwide consists of (total affected cases 11057498 and death 524991). SARS-CoV and MERS-CoV are highly infectious and contagious viruses in humans in the early 21st century [2]. Corona virus is considered a severe threat to mental health. There is an increase in corona-phobia among healthcare professionals [3], students [4], children [5], and adolescents [6]. There was a high incidence of anxiety, depression, distress, and insomnia among healthcare professionals working directly with diagnosis, treatment, and care for patients with COVID-19 [7]. Pandemic also causally or non-linear affects an individual's economic anxieties, and it depends upon media coverage and public communication of disease outbreaks [8][9]. Social media has essential resources with (in) directly related to the topic of current COVID-19 information, such as government prevention policy, epidemiologic data, recommendations of the public health, and the economic and social situation. Frequently received related news reports exposure significantly influence individual health-related attitudes and mental distress[10]

The literature suggests several studies that showed psychological distress among the different populations. For example, anxiety, depression, and panic disorder were observed in a national survey among Chinese people in the COVID-19 epidemic [11]. Another study reveals increased anxiety, depression, dangerous alcohol use, and lower mental wellbeing than the Chinese population's normal ratio [12]. There is a high prevalence of generalised anxiety disorder (35.1%) and sleep quality (18.2%) in a web-based cross-sectional study during the COVID-19 Outbreak in China [13]. Another cross-sectional study reveals a high prevalence of anxiety (43.8%) and depression (22.5%) among the general population in China [14].

People with a poor health status were more likely to report negative mental health impacts than good health status. Individuals with more medical co morbidities were more likely to report elevated mental distress during the COVID-19 pandemic [15]

Children and adolescents will significantly affect mental health due to school closure and may worsen more with already psychological issues [16]. A high level of anxiety was found with pre-occupied thought of COVID-19 found in a cross-sectional observational study performed in India [17]. The objective of this study was to deal with the literature gap in present COVID-19 mental morbidity and the prevalence of the psychological epidemic during movement control order (MCO) in Malaysia. The research findings are essential to improve potential awareness of the mental health effects of the pandemic.

Method

Participants

A cross-sectional, anonymous web-based online survey was conducted via Google Form using a convenience sampling method. The survey inclusion criteria were that participants were from the general Malaysians and Non-Malaysians, who stay in Malaysia survey periods, and above the 18 years old. The link was shared through different social media platforms (Twitter, Facebook, and Instagram) to disseminate and advertise the survey entitled "Mental Health Survey during the COVID-19 MCO". The data was collected during the movement control order (MCO) from Mar 18, 2020, until Jun 9, 2020. Survey questions were presented the English in the survey form. Pilot testing was performed with 10 sample participants to ensure the clarity of the questionnaires. A minor revision was made based on the results of the pilot. Afterwards, the revised survey items were further pretested before field administration. A total of 194 participants completed responses received in the 9-week data collection period. A total of two hundred and fifty (n=250) forms have been distributed inside Malaysia. The response rate of our study is 77.6%—demographic characteristics of participants presented in table 1.

Measures

All participants completed an online questionnaire that included the Hamilton Anxiety Rating Scale (HAM-A) [18], Hamilton Depression Rating Scale (HDRS) [19], and Duke-UNC Functional social support Questionnaire (FSSQ) [20]. A personal information section consists of gender, nationality, education level, job type, relationship status, the total number of people living in the house, living arrangement, use of medication, past surgery, smoking and alcohol.

The HAM-A was one of the first rating scales developed to measure the severity of anxiety symptoms and is still widely used today in clinical and research settings. The scale consists of 14 items, each defined by a series of symptoms, and measures psychic anxiety (mental agitation and psychological distress) and somatic anxiety (physical complaints related to anxiety). Each item is scored on a scale of 0 (not present) to 4 (severe), with a total score range of 0–56, where <17 indicates mild severity, 18–24 mild to moderate severity, and 25–30 moderate to severe [18].

The HDRS (HAM-D) is the standardised scale for measuring the severity of depressive symptoms; it is regarded as the most widely used scale for patient selection, clinical and research studies of management for depression. The HDRS (HAM-D) has comprehensive coverage of depressive conditions and related psychological symptoms, as well as strong psychometric properties [21]

The main factors in HDRS (HAM-D) consist of depressed mood, somatic anxiety, somatic symptoms-gastrointestinal, and early insomnia. The scale consists of 20 items (0 - 7 = Normal; 8 - 13 = Mild Depression; 14-18 = Moderate Depression; 19 - 22 = Severe Depression; > 23 = Very Severe Depression). [22]. The Duke-UNC Functional social support Questionnaire was used to measure social support. The main factors in FSSQ consist of confident support and effective support. The scale consists of 8-items.

Statistical analysis

In this study, IBM SPSS version 26 was used to analyse the data. The researcher used descriptive statistics (frequency, percentages, mean, and standard deviation) and a chi-square test. Descriptive statistics have been used to determine the mental health state of respondents. Chi-square test used to assess the interaction between socio-demographic factors and anxiety, depression, social support. Kendall rank correlation coefficient and Spearman's rho correlation to measure the co-relation between HAM-A, HDRS (HAM-D), and FSSQ.

Ethical Approval and Consideration

All the participants' online signed informed consent. Informed consent was obtained from all individual participants included in the study. According to the guidelines for the local and national ethical instructions (National Committee for Clinical Research, <http://www.nccr.gov.my/index.cfm>), this study did not require ethical approval. The human biological tissues, good clinical practice (GCP), and clinical trial research subjects were respected. The author managed the data collecting and statistical analysis for participant confidentiality, and all participants' data was stored in the private digital documents storage of the author.

Results

Results from table 2 identified a mild form of anxiety (19.14 %), moderate (11.70%), and severe (3.49%), very severe (1.46%). 64.17% have possessed no anxiety during movement control order (MCO) at home due to the COVID-19 outbreak. The overall mental health of the respondent is good (44.3%), whereas 9.8% and 1.0% give their response as fair and poor, respectively (Table 2). According to FSSQ, the researcher found strong social support under different categories. Overall physical health was also found good (44.3%), excellent (27.3%), whereas only 16% and 2.5% mentioned as fair or poor, respectively (Table 2). There is no significant effect on body weight (63.9%) (Table 2). The results in overall mental health were found strongly correlated with wellbeing, with the respondent marked as good 43.3% and 42.8%, respectively (Table 2). Item responses on the Hamilton Anxiety Rating Scale and Duke-UNC Functional social support Questionnaire are presented in tables 3 and 4.

The mean score of HAM-A, FSSQ and HAM-D was (22.25±8.66), (25.95±7.94) and (6.53±7.06) respectively, as mentioned in the table 5. The higher the score, the better the social support perceived [23]. In the present study, HAM-A had good internal consistency reliability (Cronbach's alpha = .919), whereas HDRS and FSSQ had shown similar good internal consistency reliability of Cronbach's alpha (.893) and (.903), respectively. Table 6 shows significant interaction of smoking to depression ($\chi^2 = 51.432$, $p < 0.10$, $df = 26$) relationship to social support ($\chi^2 = 55.779$, $p < 0.10$, $df = 128$), alcohol to anxiety ($\chi^2 = 42.326$, $p < 0.10$, $df = 31$) and gender to social support ($\chi^2 = 43.268$, $p < 0.10$, $df = 32$). The relationship of alcohol to anxiety and gender to social support is very weak due

to less sampling frame. The results are not statistically significant between different socio-demographic factors (age, nationality, total person living in house, living arrangement, use of medication, past surgery) and anxiety, depression and social support (Table 6). The relatively small subsample sizes across the other demographic details limit accurate comparisons at a statistically significant level [24]. Kendall's tau, HAM-A↔HAM-D ($r = .509$, $p < 0.01$); HAM-A↔FSSQ ($r = -1.47$, $p < 0.01$); HAM-D↔FSSQ ($r = -1.44$, $p < 0.01$) and Spearman's rho, HAM-A↔HAM-D ($r = .655$, $p < 0.01$); HAM-A↔FSSQ ($r = -2.14$, $p < 0.01$); HAM-D↔FSSQ ($r = -2.07$, $p < 0.01$) FSSQ↔HAM-D ($r = -2.07$, $p < 0.01$) showed a strong relationship between anxiety, depression and social support (Table 6)(Table7).

Table 1. Socio-demographic characteristics

Variables	Group	Frequency (%)
Gender	Male	68 (35.1)
	Female	126 (64.9)
Nationality	Malaysian	182 (93.8)
	Non-Malaysian	12 (6.2)
Age groups	Below 25 Years	105 (54.1)
	26-30 Years	2 (1.0)
	31-35 Years	13 (6.7)
	36-40 Years	9 (4.6)
	41-45 Years	22 (11.3)
	46-50 Years	12 (6.2)
	51-55 Years	10 (5.2)
	56-60 Years	9 (4.6)
	61-65 Years	8 (4.1)
	Over 65 Years	4 (2.1)
Education level	Diploma	20 (10.3)
	Secondary School	9 (4.6)
	Undergraduate	116 (59.8)
	Postgraduate	29 (14.9)
	Ph.D.	17 (8.8)
	Others	3 (1.5)
Job type	Manager	13 (6.7)
	Armed force	1 (0.5)
	Professionals	43 (22.2)
	Technicians and associate professionals	2 (1.0)
	Clerical support workers	1 (0.5)
	Service and sales workers	5 (2.6)
	Craft and related trades workers	4 (2.1)
	Plant and machine operators, and assemblers	2 (1.5)
	Others	122 (62.9)
	Relationship Status	Single
Married		61 (31.4)
Unmarried		3 (1.5)
Separated		1 (0.5)
Divorced		1 (0.5)

Total number of a person living in the house (Member)	1	12 (6.2)
	2	21 (10.8)
	3	25 (12.9)
	4	37 (19.1)
	5	45 (23.2)
	6+	54 (27.8)
Living Arrangements	Parents/others of head	98 (50.5)
	Children of head	17 (8.8)
	Lives only with spouse	12 (6.2)
	Lives alone	18 (9.3)
	Lives with spouse and children	41 (21.1)
	'Head' without spouse and living with others	8 (4.1)
Use of Medication	Yes	29 (14.9)
	No	165 (85.1)
Past Surgery	Yes	29 (14.9)
	No	165 (85.1)
Smoking	Yes	16 (8.2)
	No	178 (91.8)
Alcohol	Yes	31 (16)
	No	163 (84)

Table 2. Prevalence statistics of anxiety, functional social support, mental wellbeing status, physical health, body weight, meal intake, and depression during MCO in Malaysia.

Indicators	Levels	Frequency (%)
Anxiety	Not present	64.17
	Mild	19.14
	Moderate	11.70
	Severe	3.49
	Very severe	1.46
Duke UNC Functional social support (FSSQ)	Much less than I would like	14.30
	Less than I would like	14.56
	Some, but would like more	23.58
	Almost as much as I would like	27.57
	As much as I would like	19.97
Mental Health	Excellent	10.3
	Very Good	35.6
	Good	43.3
	Fair	9.8
	Poor	1.0
Physical health	Excellent	9.8
	Very Good	27.3
	Good	44.3
	Fair	16
	Poor	2.6
Body weight	Maintance	63.9

	Gain Weight	21.1
	Weight Loss	14.9
Meal Intake	1 meal per day	2.1
	2 meals per day	25.8
	3 meals per day	64.9
	over 4 meals per day	7.2
Wellbeing?	Excellent	10.8
	Very Good	34.0
	Good	42.8
	Fair	11.3
	Poor	1.0

Table: 3Item responses on Hamilton Anxiety Rating Scale (N=194)

Items	Response N (%)				
	Not present	Mild	Moderate	Severe	Very Severe
1. Are you worried, anticipation of the worst, fearful anticipation, irritability?	59 (30.4)	63 (32.5)	59 (30.4)	11 (5.7)	2 (1.0)
2. Feelings of tension, fatigability, startle response, moved to tears easily, trembling, feelings of restlessness, inability to relax	93 (47.9)	57 (29.4)	31 (16)	8 (4.1)	5 (2.6)
3. Fears of dark, of strangers, of being left alone, of animals, of traffic, of crowds	123 (63.4)	32 (16.5)	26 (13.4)	9 (4.6)	4 (2.1)
4. Difficulty in falling asleep, broken sleep, unsatisfying sleep and fatigue on waking, dreams, nightmares, night terrors	91 (49.6)	47 (24.2)	40 (20.6)	13 (6.7)	3 (1.5)
5. Difficulty in concentration, poor memory	74 (38.1)	61 (31.4)	42 (21.6)	15 (7.7)	2 (1.0)
6. Loss of interest, lack of pleasure in hobbies, depression, early waking, diurnal swing	102 (52.6)	51 (26.3)	30 (15.5)	9 (4.6)	2 (1.0)
7. Pains and aches, twitching, stiffness, myoclonic jerks, grinding of teeth, unsteady voice, increased muscular tone	134 (69.1)	32 (16.5)	20 (10.3)	6 (3.1)	2 (1.0)
8. Tinnitus, blurring of vision, hot and cold flushes, feelings of weakness, pricking sensation	141 (72.7)	31 (16.0)	14 (7.2)	7 (3.6)	1 (0.5)
9. Cardiovascular symptoms	157 (80.9)	21 (10.8)	12 (6.2)	2 (1.0)	2 (1.0)
10. Respiratory symptoms	161 (83.0)	19 (9.8)	10 (5.2)	2 (1.0)	2 (1.0)
11. Gastrointestinal symptoms	148 (76.3)	29 (14.9)	10 (5.2)	4 (2.1)	3 (1.5)
12. Genitourinary symptoms	162 (83.5)	17 (8.8)	4 (2.1)	3 (1.5)	8 (4.1)
13. Autonomic symptoms	138 (71.1)	37 (19.1)	14 (7.2)	4 (2.1)	1 (0.5)
14. Fidgeting, restlessness or pacing, tremor of hands, furrowed brow, strained face, sighing or rapid respiration, facial pallor, swallowing, etc	160 (82.5)	23 (11.9)	6 (3.1)	2 (1.0)	3 (1.5)

Table 4: Item responses on Duke UNC Functional social support Questionnaire (N=194)

Items	Response N (%)				
	Much less than I would like	Less than I would like	Some, but I would like more	Almost as much as I would like	As much as I would like
1. I have people who care what happens to me.	17 (8.8)	24 (12.4)	47 (24.4)	67 (34.5)	39 (20.1)
2. I get love and affection.	17 (8.8)	21 (10.8)	39 (20.1)	70 (36.1)	47 (24.2)
3. I get chances to talk to someone about problems at work or with my housework.	25 (12.9)	35 (18.0)	45 (23.2)	51 (26.3)	38 (19.6)
4. I get chances to talk to someone I trust about my personal or family problems.	32 (16.5)	24 (12.4)	48 (24.7)	51 (20.1)	39 (20.1)
5. I get chances to talk about money matters.	38 (19.6)	33 (17.0)	40 (20.6)	49 (25.3)	34 (17.5)
6. I get invitations to go out and do things with other people.	55 (28.4)	41 (21.1)	44 (22.7)	33 (17.0)	21 (10.8)
7. I get useful advice about important things in life.	18 (9.3)	27 (13.9)	58 (29.9)	52 (26.8)	39 (20.1)
8. I get help when I am sick in bed.	20 (10.3)	21 (10.8)	45 (23.2)	55 (28.4)	53 (27.3)

Table 5. Mean scores of HAM-D, HAM-A and FSSQ

Scales	Mean±SD
HDRS (HAM-D)	6.53±7.06
HAM-A	22.25±8.66
FSSQ	25.95±7.94

Table 6. Chi square test between HAM-A, HAM-D, FSSQ and nominal variables

		Chi-Square value	df	P-Value
Gender	HAM-A	28.231	31	.609
	HAM-D	31.367	26	.215
	FSSQ	43.268	32	0.088**
Age	HAM-A	212.042	279	.999
	HAM-D	211.860	234	.848
	FSSQ	315.483	288	.120
Nationality	HAM-A	29.429	31	.547
	HAM-D	17.524	26	.892
	FSSQ	31.780	32	.478
Relationship Status	HAM-A	112.691	124	.758
	HAM-D	93.793	104	.754
	FSSQ	155.779	128	.048**
Total number of person living in the house	HAM-A	146.367	155	.678
	HAM-D	122.214	130	.674
	FSSQ	148.475	160	.733
Living Arrangement	HAM-A	131.984	155	.910
	HAM-D	149.026	130	.121
	FSSQ	170.945	160	.263
Use of Medication	HAM-A	38.274	31	.173
	HAM-D	20.688	26	.758
	FSSQ	38.428	32	.201
Past Surgery	HAM-A	30.128	31	.511
	HAM-D	26.336	26	.455
	FSSQ	27.764	32	.681
Smoking	HAM-A	35.988	31	.246
	HAM-D	51.432	26	.002**
	FSSQ	29.956	32	.570
Alcohol	HAM-A	42.326	31	.084**
	HAM-D	25.223	26	.506
	FSSQ	39.410	32	.172

** . Correlation is significant at the <0.10

Table 7. Kendall's tau_b results between total HAM-A, HAM-D and FSSQ

		HAM-A	HAM-D	FSSQ
HAM-A	Correlation coefficient	1.000	.509**	-1.47**

	Sig (2-Tailed)		.000	.004
	N	194		
HAM-D	Correlation coefficient	.509**	1.000	-1.44**
	Sig (2-Tailed)	.000		.005
	N	194		
FSSQ	Correlation coefficient	-1.47**	-.144**	1.000
	Sig (2-Tailed)	.004	.005	
	N	194		

Table 8. Spearman's rho results between total HAM-A, HAM-D and FSSQ

		HAM-A	HAM-D	FSSQ
HAM-A	Correlation coefficient	1.000	.655**	-.214**
	Sig (2-Tailed)		.000	.003
	N	194		
HAM-D	Correlation coefficient	.655**	1.000	-.207**
	Sig (2-Tailed)	.000		.004
	N	194		
FSSQ	Correlation coefficient	-.214**	-.207**	1.000
	Sig (2-Tailed)	.003	.004	
	N	194		

Discussion

The current study investigates the psychological impact of COVID-19 during movement control order (MCO) in Malaysia in a general population. The objective of our research is to focus on the psychological impact during MCO time only. So, the time frame of this research is crucial. There is the unavailability of research on this domain in context to the time frame. The prevalence of psychological problems compared with other populations in a different part of the world. A similar kind of online survey was conducted in China using social media (n=1074) and found that 29 % of respondents are suffering from a different level of anxiety compared to (35.79%) during the MCO period in Malaysia [12]. The reason for the high prevalence of anxiety may possess less number of the respondent (n=194). The psychological impact of COVID-19 was also assessed among the college students in China (n=7143) and found a high prevalence of mild to moderate anxiety (24%) [25]. A similar kind of research was performed to evaluate the prevalence of generalised anxiety disorder (GAD) (35.1%) caused by COVID-19 in a general population (n=7236) during a short duration (15 days) [13]. A high prevalence of anxiety in a general population observed in northern Spain (30.7%) [26], India (43.0%)[27], UK (21.63%) [28]. For example, total anxiety level and the severity of anxiety symptoms in 49.1% of cases were normal, in 10.5 % was mild, 21.3 % was average, 9.3 % was severe, and in 9.8% was very severe level of anxiety was found in Iran online questionnaire where the researcher surveyed 10,754 individuals from the general population.[29]. Health Anxiety Inventory (HAI) also reveals the high prevalence of anxiety (45.1%) during the COVID-19 pandemic in a Turkish population (n= 343) [30].

Social support could be an essential component of interventions working with ill female caregivers, whether support-focused interventions or broader health programs incorporating elements of social support. Social support resources for HIV-positive adolescents may protect them from experiencing poor mental health. It is maybe an essential protective mechanism for adolescent psychosocial health during HIV-endemic in South Africa[31][32]. In mean \pm SD (25.95 \pm 7.94), strong social support was observed during MCO in Malaysia's general population. Social support (8.6%) was observed during

the early stage of the COVID-19 pandemic in the general population in Spain [33]. The study previously reported that social support influences SARS-related stress [34]. The researcher hypothesises that the population in the current research are single (66%) and undergraduate students (59.8%), so they may feel high social support because they are living with their parents (50.5%). A mediating role of social support was observed among Shidu parents during the Wenchuan Earthquake [35].

Aliza Werner-Seidler et al., 2017 have mentioned that the use of high-quality social connections with friends and family members is associated with a reduced likelihood of the past year's depression [36] which could be one of the reasons for the absence of depression, in mean \pm SD (6.53 \pm 7.06) during MCO in coronavirus pandemic (COVID-19). The current research is also suggestive of having a co-relationship between anxiety (HAM-A) and alcohol intake ($p=0.084$) during MCO in coronavirus pandemic (COVID-19). The psychosocial impact of COVID-19 restriction on an individual with a pre-existing anxiety disorder has a moderate and minimal aggregation on social impairment [37]. Good internal consistency reliability was found in HAM-A when evaluated under movement control order during COVID-19 pandemic compared to Beck anxiety inventory (BAI) used to assess the anxiety during an epidemic of COVID-19 in China [12].

Limitations:

The study contains several limitations. The sample size of cross-sectional study is small. The nature of data collection was web-based online survey due to movement restriction order caused by COVID-19 Pandemic. The current research is a cross-sectional study that does not allow conclusions about causal relationships. The results of the convenience sampling cannot be generalized to the target population because of the potential bias of the sampling technique due to under-representation of subgroups in the sample in comparison to the population of interest [38].

Conclusion

In this study, social support was the most preferred strategy for coping with psychological impact among the general population in Malaysia's COVID-19 pandemic under Movement Control Order (MCO). The current research offers an overview of adverse psychological consequences and related problems of COVID-19. Strong social support was observed among the individuals from their parents during MCO in Malaysia, which showed an absence of depression. Results are also an indication of parenting support intervention (PSI) during the COVID-19 pandemic. Further research is needed to confirm PSI evidence.

Abbreviations

SARS-CoV=Severe acute respiratory syndrome coronavirus
SARS-COV2= Severe acute respiratory syndrome coronavirus-2
MERS-CoV=Middle East respiratory syndrome coronavirus
COVID-19= Coronavirus disease
HAM-A= Hamilton Anxiety Rating Scale
HDRS= Hamilton Depression Rating Scale
FSSQ= Functional Social Support Questionnaire
MCO= Movement control order
BAI= Beck anxiety inventory

Data Availability

The data used to support the findings of this study are available from the corresponding author upon request.

Disclosure

The funding source had no role in the study design, data collection, analysis, and interpretation, or in the writing of the manuscript.

Competing interests

The authors declare that they have no competing interests.

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Ethical consideration

All the participants' online signed informed consent. Informed consent was obtained from all individual participants included in the study. According to the local and national ethical instructions for research (National Committee for Clinical Research, <http://www.nccr.gov.my/index.cfm>) guidelines, this study did not require ethical approval. The human biological tissues, good clinical practice (GCP), and clinical trial research subjects were respected.

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