

## Model of Resilience, Coping Ability and Psychological Well-Being among Families During Pandemic Covid-19

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### Abstract

The recent Covid-19 pandemic presented its own challenges to all parties. The movement control order implemented by the Government to curb the spread of the epidemic to a worse level gives additional difficulties to all parties, especially to families in managing their lives. This is a new challenge that has never been experienced before. This study was conducted to see the extent to which the Covid-19 pandemic presents new challenges to parents in managing their families. The impact of these difficulties tests the resilience of the family to be patient, the coping ability of how to face these difficulties which ultimately affects the psychological well-being of the family as a whole. This study uses a questionnaire to explore aspects of resilience, coping and psychological well-being of families distributed online. The study respondents are parents and guardians who have children and attend school. The opportunity to participate in the study is done on a voluntary basis. A total of 230 parents and guardians were involved in this study. The results of the study show that the level of family resilience is at a high level (Mean = 2.88; sd. = 0.36). The coping ability of the family is also at a high level (Mean = 3.26; sd. = 0.45). Analysis of family psychological well-being also shows a high level (Mean = 2.98; sd. = 0.37). Model of family resilience and psychological well-being are also presented. The findings of this study show that parents and caregivers are able to maintain their level of resilience in the face of the difficulties of the Covid-19 pandemic, always being able to act how to face difficulties, so that they are ultimately able to maintain the psychological well-being of the family. Some Recommendations are also presented at the end of the study.

**Keywords:** Family Resilience, Coping Ability Psychological Well-Being, Covid-19 Impact, Family Difficulties and Challenges

## **Introduction**

The spread of Covid19 has had a major impact on the lives of the people in Malaysia. Sudden and sudden pressures and changes require each individual's unique ability to deal with and make adjustments. Various problems have been recorded, among others, such as the risk of job loss, reduced income, significant changes in social interaction in the community, difficulties in formal teaching and learning, symptoms of psychological distress, stress, uncertainty and worry and discomfort in life.

In the context of the family, the sudden change in the structure of life activities during Covid19 has a profound effect. The risk of job loss, children's limited formal learning including online methods at home, the challenge of providing a healthy family environment have given a different perspective to family life.

Many studies during the pandemic show mental health problems in families such as symptoms of psychological distress, stress, feeling worried and worried because of uncertainty, existing health problems stemming from difficulties managing family life. These difficulties and challenges require families to adapt and adapt so that they can absorb the impact of the pandemic well. Thus, the family's ability to maintain a high level of resilience during a pandemic is an important component to the family's coping ability to maintain the family's level of psychological well-being.

Amidst these challenges, it becomes imperative to investigate the resilience and coping mechanisms of families during such unprecedented times. Understanding how families navigate through adversity and maintain their psychological well-being can provide valuable insights for intervention and support strategies.

Therefore, this study was conducted to explore the level of family resilience as well as their ability to respond in response when faced with the challenges of the Covid19 pandemic. The results of the analysis will be used to develop two models, namely the Family Resilience Model and the Family Psychological Well-Being Model.

In this regard, an individual's ability to deal with sudden changes affects how they go about and carry out daily activities. The ability to understand and practice the new normal of life is an indicator of their ability to adapt and modify. Without the ability and capability, coupled with the lack of moral support, efforts to make modifications and adaptations become difficult.

## **Literatures**

The change in the pattern of life to the new normal has given its own challenges to society, especially families in dealing with daily life matters. The difficulties faced have increased negative feelings in the family (Gassman-Pines et al., 2020). The risk of losing a job, a significant reduction in income due to problems at work, childcare problems, distance and online learning are some of the problems that really test family resilience.

The report of LPPKN (2020) found that families need to make immediate modifications to life activities in order to better absorb the impact of the pandemic. In the study it was also found that 28% of the respondents had to look for side or additional work just to meet the needs of the family. While 32% of them expressed concern about salary cuts and even job losses.

The Malaysian Statistics Department report (2020) also lists among the risks of the Covid19 pandemic to community life activities. Among the challenges that need to be faced include losing jobs and sources of income, mental and emotional stress problems and sudden changes in individual communication activities.

In addition, difficulties during the pandemic have led to the formation of psychological distress symptoms in societies around the world (Chao et al., 2020; Di Giuseppe et al., 2020; Gómez-Salgado et al., 2020; Qiu et al., 2020; Respati et al., 2021). The transmission of Covid19 has presented a new challenge that is not easy to deal with. The problems faced by every family are diverse, depending on the quality and composition of the family.

According to Decker (1997), psychological distress refers to a situation where the effects of continuous stress have caused conditions such as lack of enthusiasm, sleep problems, despair, uncertainty about the future, boredom, loss of interest, and sometimes I think of dying. This is a psychological manifestation that can have a profound effect on a person's quality of life (Mirowsky & Ross, 1991).

A study by Perveen et al. (2020) found that the community began to feel stressed, depressed and worried and it was difficult to maintain a level of psychological well-being, especially during the MCO. The public anxiety index in the country is also increasing significantly (Zhao et al., 2020), especially those related to social and economic problems.

A study by Zulkipli et al. (2020) also found that the MCO has affected the psychological well-being of families. Symptoms of psychological distress such as stress, fatigue, anxiety, uncontrollable anger and panic in the family are direct effects found in the family. Persistent psychological effects, when combined with existing psychological problems can create an uncontrollable and irrational behavioral reaction. This is one of the possibilities that happened to a boy who was killed by his biological mother along with his stepfather.

A study by Arifin and Hassan (2020) has also proven that psychological distress such as depression, anxiety and stress can happen to men, women and pregnant mothers. For half of the individuals, the pandemic situation and MCO have influenced them in acting in certain circumstances (Shaikh & Shaikh, 2020). A study by Shanmugam et al. (2020) found that there are also individuals who experience excessive stress and worry, thus becoming obsessive compulsive in acting. The new normal of life is implemented blindly and sometimes makes their life more difficult and 'paranoid'.

In the Ministry of Women, Family and Community Development's Loveline Report, there was also a sudden increase in complaints of social problems (Ali & Rashid, 2020). The community admits that their daily stress level increases during Covid19 (LPPKN, 2020).

In the context of distance and online learning, the learning methods have continuously created psychological stress and the mental health of students (Mohamad & Ibrahim, 2018; Vulić-Prtorić et al., 2020). The psychological pressure can especially be seen among male students (Mohamad & Ibrahim, 2018), and also according to fields of study such as medicine (Aida et al., 2014). The risk of psychological stress becomes higher especially for students who have financial problems (Sundarasan et al., 2020) and also if they already have an illness (Muhammad et al., 2020). Boredom in distance and online learning starts boring and uninteresting for most students.

## **Methodology**

This study was carried out using quantitative methods. This method allows data collection to be done through questionnaires to explore resilience, coping ability and psychological well-being of families when faced with the difficult challenges of the Covid-19 pandemic.

The location of the study is in the state of Johor. Parents who still have children in school were involved in this study. Data sources from the Johor State Education Department were used to determine the subject of the study. Random selection of families based on the

'voluntary' principle with the aim of seeing the impact of Covid-19 experienced in terms of resilience, coping and psychological well-being of the family.

The research instrument used is a questionnaire (closed and open) to explore three (3) constructs, namely Family Resilience, Action Force and Psychological Well-Being. Several existing questionnaires such as the Connor-Davidson Resilience Scale for the resilient construct, Brief Cope to measure coping and Ryff's Psychological Well-Being Scales to measure psychological well-being have been used as a guide and basis for the research questionnaire. The reliability value of the research instrument used has been tested and can be used for data collection:

Table 1

*Questionnaire Reliability Statistics*

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
<b>.936</b>	<b>.946</b>	<b>68</b>

With the permission of the school, the distribution of the questionnaire was done online in the form of a google form. With the help of the school, the online distribution of the questionnaire was done to the parents of the students. To ensure a high number of respondents, the distribution and filling period has been set for 1 month. Parents have voluntarily responded to the distributed questionnaire. A total of 230 families were involved voluntarily giving responses to the distributed questionnaire.

The collected data were analyzed descriptively and inferred to answer the issues and research questions set in relation to resilience, coping and psychological well-being of the family.

## **Results and Discussion**

### **Analysis of Level**

#### ***Level of Family Resilience***

Based on mean analysis, it was found that the level of resilience of parents when faced with the challenge of covid-19 was at a high level (Mean = 2.88; sd = 0.36). The majority of parents are able to absorb and accept the challenges and difficulties of life during covid-19 into something positive and need to be faced with patience. In addition to sharing difficulties with others, most parents also use various approaches such as listening to advice, sharing coping methods, and other approaches including praying for ease.

Table 2

*The level of family resilience*

1	I divert myself from thinking about the problem I have by doing other tasks
2	I try to do my best when faced with difficult situations
3	I told myself that "reality is not the same as what I imagine"
4	I receive emotional support from others.
5	I tend to give up when faced with difficult situations
6	I took practical steps to make the difficult situation better.
7	I tend to deny the hardships I face.
8	I say something positive to myself to get rid of the discomfort.
9	I tend to listen to advice and accept help from others
10	I get information from various parties to evaluate and understand difficult situations that happen positively
11	I tend to criticize myself
12	I look for a way out when facing difficult situations
13	I try to feel happy and peaceful with the help of friends, relatives or family members
14	I give up easily when trying to overcome a problem
15	I try to find the good in difficult situations
16	I tend to take things for granted
17	thinking about difficult problems
18	I can accept all the situations that happen
19	I express my negative feelings through conversation and sharing with others
20	I try to find peace through a spiritual and religious approach
21	I ask others for help when facing difficult situations
22	I learned to accept the difficult situation I was facing
23	I'm thinking too much about what to do in a difficult situation right now
24	I tend to blame myself for what happened
25	I always pray / meditate
26	I tend to make difficult situations that are happening as jokes
Overall Mean = 2.88; Sd = 0.36	

Nevertheless, analysis based on demographic data shows a diverse situation. Table 3 regarding the comparison of the mean level of resilience based on status as a caregiver shows a higher level than as a mother or father.

Table 3

*Min Difference of Resilience Based on Status*

Status	Mean	N	Std. Deviation
MOTHER	2.8955	149	.39508
FATHER	2.8482	74	.29689
<b>GUARDIANSHIP</b>	<b>2.9286</b>	<b>7</b>	<b>.33781</b>
Total	2.8813	230	.36403

While Table 4 shows the analysis of the level of resilience based on the type of job, it shows that parents who do professional jobs have a better level of resilience compared to non-professional jobs.

Table 4  
*Min Difference of Resilience Based on Type of Profession*

Profession	Mean	N	Std. Deviation
<b>PROFESSIONAL</b>	<b>2.9246</b>	<b>101</b>	<b>.32165</b>
NON-PROFESSIONAL	2.8473	129	.39194
Total	2.8813	230	.36403

Analysis based on the location where parents live shows that parents who live in the city have a higher mean value compared to parents who live in the suburbs and rural areas.

Table 5  
*Min Difference of Resilience Based on Location*

Location	Mean	N	Std. Deviation
<b>CITY</b>	<b>2.8997</b>	166	.36367
OUTSKIRT OF CITY	2.8462	36	.33391
REMOTE	2.8173	28	.40402
Total	2.8813	230	.36403

### ***Level of Coping***

Analysis of coping ability among parents and guardians shows a high level of ability (mean = 3.26; sd = 0.45). Table 6 below shows that the parents and guardians have a high coping ability. They are able to adapt to changes and challenges that occur. By applying various approaches such as always being positive, learning to face challenges and trying to solve them, always working with others, the parents and guardians also utilized personal attributes in curbing the impact faced. As a last resort the parents and guardians also relying all problems in their prayer.

Table 6

*Overall Mean Level of Coping Ability*

1	I can adapt to the changes that happen
2	I feel a very close and comfortable connection with the people around me
3	In my opinion, God can help people face difficult situations
4	I am able to solve any problem that occurs
5	In my opinion, past success gives confidence to face new challenges
6	I can see the good in any hardship/life test that I go through
7	I have my own way of reducing stress
8	I tend to bounce back after going through tough times
9	I believe that something happens because of certain things
10	I try my best in any situation
11	In my opinion, everyone can achieve their own goals
13	I know where to get help
14	In stressful situations, I stay focused and can think clearly
15	I prefer to be the leader in solving a problem
16	I don't give up easily just because of a failure
17	I consider myself a strong person
18	I can make difficult decisions
19	I can overcome the uncomfortable feeling
20	I act on a hunch / intuition
21	I have to be strong in order to achieve my life goals
22	I can control my own life
23	I love a challenge
24	In my opinion, someone who works is actually working to achieve the goals they have set
25	I am proud of my achievements so far
Overall Mean = 3.26; Sd = 0.45	

Further analysis on the differences based on demographic data shows an interesting pattern. Table 7 shows the position of guardians as a group that has better coping ability than mothers or fathers. This means that the status as a caregiver has better coping ability when faced with life challenges such as covid-19.

Table 7

*Min Difference of Coping Ability Based on Status*

Status	Mean	N	Std. Deviation
MOTHER	3.2368	149	.46279
FATHER	3.2941	74	.43875
<b>GUARDIANCE</b>	<b>3.2971</b>	<b>7</b>	<b>.40913</b>
Total	3.2570	230	.45269

Analysis based on profession also shows that professional groups have better coping ability than non-professional parents or guardians. Table 8 shows the mean difference recorded between the professional and non-professional groups.

Table 8

*Min Difference of Coping Ability Based on Profession*

Profession	Mean	N	Std. Deviation
<b>PROFESSIONAL</b>	<b>3.3671</b>	<b>101</b>	<b>.40688</b>
NON-PROFESIONAL	3.1709	129	.46930
Total	3.2570	230	.45269

Analysis of coping ability based on the location of residence shows that parents and guardians who live in the city have better coping ability than those who live in the suburbs or rural areas. Table 9 shows the mean difference of coping ability based on location.

Table 9

*Min Difference of Coping Ability Based on Location*

Location	Mean	N	Std. Deviation
<b>CITY</b>	<b>3.3063</b>	<b>166</b>	<b>.44735</b>
OUTSKIRT OF CITY	3.1778	36	.42412
REMOTE	3.0671	28	.47040
Total	3.2570	230	.45269

***Psychological Well-Being***

Analysis of psychological well-being shows interesting findings. Despite facing life challenges such as covid-19, most parents or guardians are able to maintain psychological well-being to a positive level (overall mean = 2.98; Sd = 0.37). Table 10 shows various approaches taken by parents and guardians in maintaining their psychological well-being. Overall, they are able to transform the challenge of covid-19 as a difficulty that needs to be faced.

Table 10

*Overall Mean Level of Psychological Well-Being*

1	When I look back on my life story, I am happy that my life has improved
2	I am not afraid to voice my opinion even if it is against the opinion of others
3	The demands of everyday life often leave me frustrated / hopeless
4	I feel that I need to continue learning to understand myself more closely
5	I often feel alone to share my sadness because I have very few close friends
6	I think new and challenging experiences are necessary in life
7	I like the personality traits that I have
8	I am an individual who is easily influenced by other people's opinions
9	I am pessimistic about what I want in life
10	I learned a lot from the friendships I made
11	I am comfortable with my life now
12	I manage time well so that what is planned is achieved
13	I am an active person in implementing the plans that I have set
14	I find it difficult to voice my opinion, especially regarding controversial issues
15	I have a clear purpose in what I do
16	For me, life is a continuous process of learning, change and growth
17	Between me and my friends, there is a feeling of trusting each other
18	I have difficulty managing my life well
Overall Mean = 2.98; Sd = 0.37	

Further analysis on the psychological well-being based on the status of respondents shows an interesting pattern. Table 11 shows that guardians have a better level of psychological well-being than mothers or guardians.

Table 11

*Mean Difference of Psychological Well-Being Based on Status*

Status	Mean	N	Std. Deviation
MOTHER	2.9779	149	.40272
FATHER	2.9762	74	.30650
<b>GUARDIANCE</b>	<b>3.1849</b>	7	.16439
Total	2.9836	230	.36980

While the analysis of psychological well-being based on profession shows that the professional group has a better level of psychological well-being compared to the non-professional group. Table 12 shows a significant level difference.

Table 12

*Mean Difference of Psychological Well-Being Based on Profession*

Profession	Mean	N	Std. Deviation
<b>PROFESSIONAL</b>	<b>3.0600</b>	101	.30599
NON-PROFESSIONAL	2.9238	129	.40410
Total	2.9836	230	.36980

Analysis of psychological well-being based on the location of residence shows that parents and guardians who live in the city have a better level of psychological well-being than those who live in the suburbs or rural areas. Table 13 shows the mean score of psychological well-being based on the location of the family's residence.

Table 13

*Mean Difference of Psychological Well-Being Based on Location*

Location	Mean	N	Std. Deviation
<b>CITY</b>	<b>3.0184</b>	166	.38061
OUTSKIRT OF CITY	2.9379	36	.26380
REMOTE	2.8361	28	.38932
Total	2.9836	230	.36980

**Analysis of Model*****Family Resilience Model***

Further analysis is related to identifying family resilience models when faced with the challenges and difficulties of the covid-19 pandemic. Table 14 (a-c) shows the construct of the family's ability to absorb difficulties and always be positive to enable them to get back up, manage difficulties and always be flexible when dealing with the difficulties of the Covid-19 pandemic.

Table 14 (a)

*Family Resilience Model*

	Mean	Std. Deviation	N
Family Resilience	2.8813	.36403	230
Absorb Difficulties	2.8797	.59963	230
Positive Attitude	2.3793	.37652	230
Bounce Back	<b>3.2043</b>	<b>.50227</b>	230
Manage Difficulties	2.5467	.53557	230
Patience	2.2761	.46560	230
Flexibility	2.9837	.42443	230

Table 14 (b)

*Family Resilience Model*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.978 <sup>a</sup>	<b>.957</b>	.956	.07660

a. Predictors: (Constant), Flexibility, Patience, Absorb Difficulties, Manage Difficulties, Positive Attitude, Bounce Back

Table 14 (c)

*Family Resilience Model*

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	29.038	6	4.840	824.836	<b>.000<sup>b</sup></b>
	Residual	1.308	223	.006		
	Total	30.347	229			

a. Dependent Variable: Family Resilience

b. Predictors: (Constant), Flexibility, Patience, Absorb Difficulties, Manage Difficulties, Positive Attitude, Bounce Back

***Family Psychological Well-Being Model***

Analysis of the psychological well-being of the family shows that the factor of always accepting destiny, understanding self-development and understanding the purpose of life can affect the nature of autonomy. Through this factor, the family is able to master difficulties and maintain relationships with other people. Table 15 (a-c) shows significant scores regarding predictors to the family's psychological well-being.

Table 15 (a)

*Family Psychological Well-Being Model*

	Mean	Std. Deviation	N
Psychological Well-Being	2.9213	.35858	230
Self-Acceptance	2.8957	.47216	230
Autonomy	2.9275	.53009	230
Mastering Environment	2.6065	.50819	230
Personal Development	2.8681	.45196	230
Relationship With Others	2.6522	.58799	230
Life Expectancy	<b>3.1946</b>	<b>.48664</b>	230

Table 15 (b)

*Family Psychological Well-Being Model*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.996 <sup>a</sup>	<b>.993</b>	.993	.0307

a. Predictors: (Constant), Life Expectancy, Mastering Environment, Relationship with Others, Self-Acceptance, Personal Development, Autonomy

Table 15 (c)

*Family Psychological Well-Being Model*

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	29.235	6	4.872	5184.180	.000 <sup>b</sup>
	Residual	.210	223	.001		
	Total	29.444	229			

a. Dependent Variable: Psychological Well-Being

b. Predictors: (Constant), Life Expectancy, Mastering Environment, Relationship With Others, Self-Acceptance, Personal Development, Autonomy

The findings of the study show that the psychological well-being of the family is related to their level of resilience and coping ability when faced with the difficulties and challenges of the Covid-19 pandemic.

### Concluding Remarks

The results of this study give an impression that difficulties such as during the Covid-19 pandemic need to be dealt with carefully. This is because if it is taken lightly it can result in stress and life difficulties that affect everyday life. Especially families, they need to be able to deal with these difficulties so that they don't affect their daily lives. This study shows that there are three important things that families need to deal with, namely resilience, coping ability and psychological well-being.

Therefore, to ensure that the impact of the difficulties and challenges of Covid-19 is not too profound, families need to ensure that the level of resilience is always at a high level so that they are able to think of ways to deal with it positively that will ultimately maintain their level of psychological well-being.

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**References**

- Aida, J., Hizlinda, T., Siti Fatimah, S., Mohd Muhaimin, A., Chai, S., Sahrina, W., & Teo, B. (2014). Psychological disorders and help seeking behaviour among Malaysian medical students in their clinical years. *Med & Health, 9*(2), 114-123.
- Ali, E., & Rashid, M. A. (2020). Pandemi COVID-19: Mendepani dampak psikososial. *Perspektif TSIS*.
- Arifin, S. M., & Hassan, N. (2020). The Psychological Impact of COVID-19 on Antenatal Women: A Scoping Review. *IJUM Medical Journal Malaysia, 19*(2). <https://doi.org/10.31436/imjm.v19i2.1608>.
- Chao, M., Chen, X., Liu, T., Yang, H., & Hall, B. J. (2020). Psychological distress and state boredom during the COVID-19 outbreak in China: the role of meaning in life and media use. *European journal of psychotraumatology, 11*(1), 1769379. <https://doi.org/10.1080/20008198.2020.1769379>.
- Decker, F. H. (1997). Occupational and nonoccupational factors in job satisfaction and psychological distress among nurses. *Research in Nursing & Health, 20*(5), 453-464. [https://doi.org/10.1002/\(SICI\)1098-240X\(199710\)20:5<453::AID-NUR9>3.0.CO;2-N](https://doi.org/10.1002/(SICI)1098-240X(199710)20:5<453::AID-NUR9>3.0.CO;2-N)
- Di Giuseppe, M., Zilcha-Mano, S., Prout, T. A., Perry, J. C., Orrù, G., & Conversano, C. (2020). Psychological impact of coronavirus disease 2019 among Italians during the first week of lockdown. *Frontiers in psychiatry, 11*, 576597. <https://doi.org/10.3389/fpsy.2020.576597>.
- Gassman-Pines, A., Ananat, E. O., & Fitz-Henley, J. (2020). COVID-19 and parent-child psychological well-being. *Pediatrics, 146*(4). <https://doi.org/10.1542/peds.2020-007294>.
- Gómez-Salgado, J., Andrés-Villas, M., Domínguez-Salas, S., Díaz-Milanés, D., & Ruiz-Frutos, C. (2020). Related health factors of psychological distress during the COVID-19 pandemic in Spain. *International Journal of Environmental Research and Public Health, 17*(11), 3947. <https://doi.org/10.3390/ijerph17113947>.
- LPPKN. (2020). *Kesan Pandemi Covid-19 Terhadap Perubahan Tingkah Laku Dan Gaya Hidup, Bekerja Dari Rumah (BDR) Serta Perancangan Keluarga. Dimuat pada 21 Jun 2021:* (<http://familyrepository.lppkn.gov.my>).
- Mohamad, M. S., & Ibrahim, R. (2018). Perbezaan gender tekanan psikologikal dan kesihatan mental dalam kalangan pelajar prasiswazah. *Jurnal Personalia Pelajar, 21*(1), 55-66.
- Muhammad, I., Shahudin, F., Hooper, V. J., Akram, W., & Ghani, R. B. A. (2020). The psychological impact of coronavirus on university students and its socio-economic determinants in Malaysia. *Available at SSRN 3720759*. <https://doi.org/10.1101/2020.10.27.20220723>.
- Perveen, A., Motevalli, S., Hamzah, H., Ramlee, F., Olagoke, S. M., & Othman, A. (2020). The comparison of depression, anxiety, stress, and coping strategies among Malaysian male and female during COVID-19 movement control period. *Sciences, 10*(7), 487-496. <https://doi.org/10.6007/IJARBS/v10-i7/7451>.
- Qiu, J., Shen, B., Zhao, M., Wang, Z., Xie, B., & Xu, Y. (2020). A nationwide survey of psychological distress among Chinese people in the COVID-19 epidemic: implications and policy recommendations. *General psychiatry, 33*(2). <https://doi.org/10.1136/gpsych-2020-100213>.
- Respati, T., Irasanti, S. N., Sartika, D., Akbar, I. B., & Marzo, R. R. (2021). A nationwide survey of psychological distress among Indonesian residents during the COVID-19 pandemic. *Int J Public Health Sci, 10*, 119-126. <https://doi.org/10.11591/ijphs.v10i1.20609>.

- Shaikh, M. F., & Shaikh, F. A. (2020). COVID-19 and mental health: Our reactions to its actions. *Neuroscience Research Notes*, 3(2), 1-3. <https://doi.org/10.31117/neuroscirn.v3i2.46>.
- Shanmugam, H., Juhari, J. A., Nair, P., Ken, C. S., & Guan, N. C. (2020). Impacts of COVID-19 pandemic on mental health in Malaysia: A single thread of hope. *Malaysian Journal of Psychiatry*, 29(1), 78-84.
- Sundarasan, S., Chinna, K., Kamaludin, K., Nurunnabi, M., Baloch, G. M., Khoshaim, H. B., Hossain, S. F. A., & Sukayt, A. (2020). Psychological impact of COVID-19 and lockdown among university students in Malaysia: Implications and policy recommendations. *International Journal of Environmental Research and Public Health*, 17(17), 6206. <https://doi.org/10.3390/ijerph17176206>.
- Vulić-Prtorić, A., Selak, M. B., & Sturnela, P. (2020). The psychological distress in students during the COVID-19 crisis: An 8-wave longitudinal study. <https://doi.org/10.31234/osg.io/vtfxg>.
- Zhao, H., He, X., Fan, G., Li, L., Huang, Q., Qiu, Q., Kang, Z., Du, T., Han, L., & Ding, L. (2020). COVID-19 infection outbreak increases anxiety level of general public in China: involved mechanisms and influencing factors. *Journal of Affective Disorders*, 276, 446-452. <https://doi.org/10.1016/j.jad.2020.07.085>.
- Zulkipli, Z. N., Idris, S. H., & Rahman, N. A. (2020). COVID-19 anxiety: Malaysian regulatory mechanisms on mental health. *International Journal of Advanced Science and Technology*, 2472-2477.