

Sociodemographic Determinants of Indonesian Mothers' Psychological Distress during the COVID-19 Pandemic

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Abstract

The Indonesian government imposed a large-scale social restriction policy to prevent the spread of COVID-19. This policy affected the community, including mothers, and may have caused psychological strain on them. This study aimed to (i) establish a dataset on the psychological distress reported by mothers in Indonesia and (ii) identify demographic factors and pandemic-related characteristics that determine psychological distress. An online survey was administered from April 20 to April 25, 2020, and 1534 surveys were submitted. Bivariate and multivariate regression models were constructed to examine the associations between sociodemographic variables, depression, anxiety, and stress. The results demonstrated that the level of the psychological distress domain scores was relatively low; additionally, stress was reported the most, followed by anxiety and depression. The number of children and being informed of a neighbor who tested positive were correlated with depression symptoms. The mother's age and being notified of a neighbor who tested positive correlated with anxiety symptoms. The length of the marriage and being notified of a neighbor who tested positive correlated with stress symptoms. These data help identify persons at greater risk of suffering from psychological distress and provide a baseline for further research and interventions targeting the mothers' psychological distress.

Determinan Sosiodemografi dari Kesehatan Mental Ibu Indonesia di Masa Pandemi COVID-19

Abstrak

Untuk menangani pandemi COVID-19, pemerintah Indonesia untuk memberlakukan kebijakan pembatasan sosial skala besar. Kebijakan ini berdampak pada masyarakat, termasuk para ibu, dan dapat menyebabkan ketegangan psikologis yang cukup tinggi. Penelitian ini bertujuan untuk: (i) mendapatkan data tekanan psikologis yang dialami oleh ibu Indonesia (ii) mengidentifikasi faktor-faktor demografis serta karakteristik terkait pandemi yang mempengaruhi tekanan psikologis tersebut. Survei daring dilakukan mulai 20 hingga 25 April 2020 kepada 1534 responden. Model regresi bivariat dan multivariat dilakukan untuk menguji hubungan antara variabel sosiodemografi, depresi, kecemasan, dan stres. Hasil penelitian ini menunjukkan bahwa tingkat tekanan psikologis relatif rendah, dengan stres paling sering dilaporkan, diikuti oleh kecemasan dan depresi. Jumlah anak, mengenal seseorang di lingkungan setempat yang dinyatakan positif COVID-19 berkorelasi dengan gejala depresi. Usia ibu dan mengenal seseorang di lingkungan setempat yang dinyatakan positif COVID-19 berkorelasi dengan gejala kecemasan, sementara lama menikah dan mengenal seseorang di lingkungan setempat yang positif COVID-19 berkorelasi dengan gejala stres. Data ini adalah informasi penting untuk mengidentifikasi orang-orang yang berisiko lebih besar menderita tekanan psikologis dan dapat digunakan sebagai dasar untuk studi dan intervensi selanjutnya yang menargetkan tekanan psikologis ibu.

Keywords: COVID-19, Indonesia, mothers, psychological distress

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1. Introduction

Today's COVID-19 pandemic is a major global health threat. On April 30, 2020, the World Health Organization reported that 5,704,736 cases and 357,736 deaths had been confirmed worldwide, with numbers increasing daily. The global spread of COVID-19 has been rapid, and over 209 countries have reported at least one case. As such, according to Imperial College (Walker et al., 2020), the worldwide effect of the SARS-CoV-2 has been severe, and the public health threat it represents is the most serious caused by a virus for the last 100 years.

The spread of the virus is a major threat to human health. In response, every country mitigates the virus's spread by administering various strategies, including large-scale social restrictions (*Pembatasan Sosial Berskala Besar*). This policy widely affects multiple domains and activities, such as education, work, religion, social interaction and transportation. Education-related activities have been moved online since March 17, 2020, and started simultaneously in all provinces. Some offices have been closed, whereas others are allowed to open. Adults must work from home, and children must study from home. What remains unclear is when this social restriction policy will end. The government predicts the outbreak could peak in Indonesia by the end of May (Syakriah, 2020).

The large-scale social restriction policy has resulted in severe disruptions of daily routines, separation from family and friends, shortages of food and medicine, wage loss, social isolation due to quarantine or other social distancing programs, and school closure (Ahmed et al., 2020). How daily life is conducted has also dramatically changed. The conditions of isolation and quarantine can cause distress conditions, such as feelings of loneliness, anger, and other stress disorders (Xiang et al., 2020; Zhang et al., 2020).

The impact of this pandemic and the social restrictions on mental health have been investigated in various countries, especially in those with the earliest confirmed cases, such as China (Ahmed et al., 2020; Huang et al., 2019), Italy (Pancani et al., 2020), and France (Droit-Volet et al., 2020). Studies have reported increased levels of stress and decreased levels of well-being in various population groups.

Notably, women have reported higher levels of distress than men have during this time of the pandemic and social restrictions (Droit-Volet et al., 2020; Moghanibashi-Mansourieh, 2020). This distress might be related to a woman's roles in a household in Indonesia: wife, mother, and housework. Women spend more time than men on domestic work, ranging from 1.7 times as much in New Zealand to 11 times in Pakistan (UN Women,

2020). While observing the social restrictions to control the pandemic, family members performed their regular activities at home. As the center of life is now at home, the roles of women have become more burdensome. Even before the pandemic, mothers in Indonesian society are responsible for child-rearing, children's school activities, domestic chores, and caring for all family members (Priyatna, 2013; Syakriah, 2020). This obligation has doubled for working mothers, who complete their professional tasks and fulfill their household responsibilities. This situation probably increases the possibility of mothers having work–family conflicts: tension or role imbalance between mothers' roles in the workplace and household. Women reported a greater level of work–family conflict than men did (Kremer, 2016). This conflict resulted in a notable decrease in women's performance at work and possibly affected her relationships at home (Novitasari et al., 2020). A study in Italy during the lockdown to prevent the spread of COVID-19 found that mothers' sleep timing and quality, emotional symptoms, and feelings about time flow markedly changed, especially among working mothers (Di Giorgio et al., 2020).

Families with school-age children must engage in child-rearing tasks, for example, being the main facilitator of homeschooling. Therefore, this study investigated mothers with school-age children aged younger than 18 years (who usually need more assistance in studying or other daily life activities than young adults [aged 18 years and older]). A study found that during the pandemic, mothers have perceived their children as more undisciplined and hyperactive than before the pandemic, which might worsen mothers' relationships with their children, affecting the well-being of all parties (Di Giorgio et al., 2020). Daily news on the adverse effects of the pandemic and understanding the possibility of contracting the virus might increase the worry mothers feel regarding their family's health and safety, increasing their reported distress level (Mazza et al., 2020). In summary, these factors could affect the mental health condition of mothers.

Research on Indonesian mothers' reported emotional distress during the COVID-19 pandemic and its influencing factors have been scarce, according to our review of the literature. This study investigated sociodemographic status and several pandemic-related characteristics to assess how the pandemic has affected the mothers' mental health. This study's results provide useful information to improve maternal mental health through interventions. Therefore, this study aimed to investigate the psychological distress reported by Indonesian mothers and the demographic factors and pandemic-related characteristics that determine that psychological distress.

2. Methods

This study is part of an ongoing longitudinal project investigating Indonesian mothers' psychological distress and its determinant factors during the COVID-19 pandemic. For this report, baseline data were used.

Respondents. This study's population is Indonesian mothers with children affected by the large-scale social restrictions implemented by Indonesia's local and national government to control the COVID-19 pandemic. Inclusion criteria for the mothers were as follows: (i) aged >17 years and (ii) has at least one child aged younger than 18 years who is (iii) residing at the same address as her (Table 1). A convenience sampling method was used to obtain data from the population.

Table 1. Demographic Characteristics (N = 1534)

Characteristics	Mean	SD
Age	37.12	6.63
Age of spouse*	39.36	7.19
Length of marriage	11.30	6.19
Number of children	2.11	0.94
	<i>n</i>	%
Education		
Junior high school or below	6	0.39
Senior high school	85	5.54
Diploma	149	9.71
University	1294	84.35
Spouse's education		
Junior high school or below	12	0.80
Senior high school	137	9.18
Diploma	131	8.78
University	1212	81.23
Monthly income status		
No income	444	28.94
Irregular income	407	26.53
Regular income	683	44.52
Spouse's monthly income status		
No income	70	4.69
Irregular income	328	21.98
Regular income	1094	73.32
Family's monthly income (IDR)		
<5 million	327	21.32
Between 5 and 10 million	484	31.55
>10 million	723	47.13
Location of residence		
Java island	1340	87.35
Outside Java island	157	10.23
Overseas	37	2.41

Note. SD=Standard Deviation; IDR=Indonesian Rupiah
Forty-two respondents had no spouse (because of divorce or other reasons); therefore, the number of spouses was 1492.

After excluding the respondents who either provided invalid answers or did not fulfill the criteria, the final

sample was 1534 respondents, with an average age of 37.1 years [standard deviation (SD)= 6.6]. The majority of the respondents were university graduates (84.4%) living on Java island (87.6%) who had two children (41.3%; Table 1). Concerning the mothers' life during the pandemic, most were employed and worked from home (34.7%), having spouses that also work from home (54.9%), and did not employ a housekeeper (62.9%). Most of the mothers did not know any persons in their social circle (83.2%) or neighborhood (60.9%) who had contracted COVID-19 (Table 2).

Table 2. Life during the COVID-19 Pandemic: Characteristics

Characteristics	<i>n</i>	%
Working arrangement		
Not working (housewife)	745	48.57
Work from office (WFO)	80	5.21
Work from home (WFH)	532	34.68
Shift (WFO and WFH)	177	11.54
Spouse's working arrangement		
Not working	129	8.65
Work from office (WFO)	543	36.39
Work from home (WFH)	820	54.96
Helped by a housekeeper		
Yes	569	37.09
No	965	62.91
Know a COVID-19-positive person		
Yes	257	16.75
No	1277	83.25
Someone in the neighborhood is COVID-19 positive		
Yes	600	39.11
No	934	60.89

Note. Forty-two respondents had no spouse (because of divorce or another reason); therefore, the number of spouses was 1492.

Procedures. Ethical clearance was obtained from the Universitas Padjadjaran Ethical Committee (No. 486/UN6.KEP/EC/2020). Data collection was performed from April 20 to April 25, 2020, by using Google Forms. The research team shared the survey link through their networks, social media, instant messenger applications, and other means of communication. Informed consent was obtained from all respondents included in the study before they completed the online questionnaires.

Instruments. Two questionnaires were used: one questionnaire was to elicit demographics, and the other was the Depression Anxiety Stress Scale (DASS).

On the basis of the literature, we listed the demographic factors and pandemic-related characteristics that we thought would determine the mother's psychological

distress. Thus, the demographic data collected comprised personal information (i.e., age, education, length of the marriage, monthly income, and number of children), spouse information (i.e., age, education, and monthly income), and pandemic-related characteristics (i.e., number of children who must study from home, working situation, housekeeper help, and whether the respondent was informed of a neighbor who tested positive for COVID-19).

DASS was used for data collection to assess respondents' psychological distress. We used the Indonesian version of DASS, which has been psychometrically validated with the Indonesian population (Oei et al., 2013). This 18-item self-report inventory measures the presence and severity of symptoms of depression (7 items), anxiety (7 items), and stress (4 items) over the prior 7 days. The higher the score, the more severe the psychological distress. The internal consistency of the DASS-18 domains in our sample was 0.82, 0.75, and 0.75 for depression, anxiety, and stress, respectively.

Before we collected data from the respondents, the online questionnaires were pilot-tested by five mothers to assess the feasibility and understanding. All respondents reported that the questionnaires are easy to comprehend and no missing items or unfavorable effects were observed.

Data Analysis. Descriptive statistics were used to describe the respondents' demographic and pandemic-related characteristic data and reflect their psychological distress scores: categorical data were analyzed by using cross-tabulation and means, and SDs were calculated for continuous data. The Shapiro–Wilk test was used to determine the DASS domain's distribution and total scores. The scores were skewed and not normally distributed. Therefore, non-parametric tests were used for all analyses. We conducted several bivariate analyses. Spearman correlation analysis was calculated to assess the correlation between each psychological distress domain score and the total scores and between the demographic and pandemic-related characteristics and the continuous type of data (i.e., age, spouse's age, number of children, and length of marriage). The Mann–Whitney U (Wilcoxon rank-sum) test was employed to compare the psychological distress domain and total scores between two groups (i.e., having a housekeeper and knowledge of COVID-19 patients). For comparisons between more than two groups (i.e., education, monthly income, and working situation), the Kruskal–Wallis H test was adopted. A $p < 0.05$ was considered statistically significant. Only demographic and pandemic-related characteristics that were correlated and statistically significant were included in multivariate analysis.

Several multiple linear regression analyses were conducted for multivariate analysis, where each psychological distress domain score and the total scores served as the outcomes and demographics (i.e., age, spouse's age, income, and spouse's income). Pandemic-related characteristics (i.e., number of children who must study from home, working situation, having a housekeeper, and being informed of a neighbor who contracted COVID-19) served as predictors. All statistical analyses were conducted by using Stata version 13 software.

3. Results

Descriptive data for all samples' psychological distress domain scores and the subgroups are presented in Table 3. The results demonstrate that the respondents and their spouses' income status and family monthly income were statistically significant and correlated to the mothers' psychological distress levels. Additionally, the types of psychological distress, income status, and family monthly income were mostly associated with depression symptoms.

Concerning pandemic-related characteristics, we found that knowing someone in the neighborhood who tested positive for COVID-19 had a significant correlation with psychological distress and its three symptoms: depression, anxiety, and stress. Other characteristics, namely, working arrangement and availability of housekeepers, were associated only with the depression symptoms (Table 4).

A mother's age, her spouse's age, the length of her marriage, and her number of children were statistically significant and negatively correlated with the depression, anxiety, and stress scores; for example, the older the mother and her spouse, the lower the level of psychological distress she experienced. However, the correlation coefficients were low: between -0.056 and -0.257 (Table 5).

We included all demographic and pandemic-related characteristics except mothers and their spouses' education level, because the correlation between these two with the psychological distress domains is not statistically significant. Table 6 presents statistically significant characteristics. When controlling all other factors, the number of children and not knowing a neighbor who tested positive correlated with depression symptoms. The mother's age and not knowing a neighbor who tested positive correlated with anxiety symptoms, and the length of the marriage and not knowing a neighbor who tested positive for COVID-19 were correlated with stress symptoms.

Table 3. Depression, Anxiety, Stress, and Total Scores of Different Sociodemographic Characteristics

Characteristics	Depression		Anxiety		Stress		Total	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
All respondents	0.43	0.43	0.51	0.42	0.83	0.55	0.55	0.40
Monthly income status								
No income	0.50	0.49	0.54	0.43	0.90	0.60	0.60	0.43
Irregular income	0.44	0.44	0.50	0.43	0.82	0.54	0.55	0.41
Regular income	0.39	0.39	0.50	0.40	0.78	0.51	0.52	0.36
Spouse's monthly income status								
No income	0.57	0.54	0.56	0.47	0.91	0.60	0.64	0.46
Irregular income	0.46	0.43	0.53	0.41	0.84	0.53	0.57	0.40
Regular income	0.41	0.42	0.50	0.41	0.82	0.55	0.53	0.39
Family's monthly income (IDR)								
<5 million	0.39	0.40	0.48	0.39	0.80	0.54	0.51	0.37
Between 5 And 10 million	0.44	0.44	0.51	0.40	0.82	0.53	0.55	0.39
>10 million	0.52	0.49	0.58	0.49	0.89	0.58	0.63	0.46

Note. SD=Standard Deviation; Numbers in **bold**: scores are significantly different between the corresponding subgroups; $p<0.05$

Table 4. Depression, Anxiety, Stress, and Total Scores of Different Pandemic-related Characteristics

Characteristics	Depression		Anxiety		Stress		Total	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Working arrangement								
Not working (housewife)	0.48	0.47	0.52	0.42	0.87	0.57	0.58	0.42
Work from office (WFO)	0.37	0.40	0.47	0.31	0.79	0.49	0.50	0.33
Work from home (WFH)	0.40	0.39	0.51	0.42	0.79	0.53	0.53	0.38
Shift (WFO and WFH)	0.38	0.36	0.50	0.44	0.78	0.50	0.51	0.37
Spouse's working arrangement								
Not working	0.52	0.50	0.54	0.47	0.87	0.60	0.61	0.46
Work from office (WFO)	0.43	0.43	0.53	0.44	0.84	0.57	0.56	0.41
Work from home (WFH)	0.41	0.42	0.49	0.38	0.81	0.52	0.53	0.37
Helped by a housekeeper								
Yes	0.39	0.41	0.49	0.40	0.81	0.52	0.52	0.37
No	0.46	0.45	0.52	0.43	0.84	0.56	0.56	0.41
Know someone who is COVID-19 positive								
Yes	0.36	0.36	0.51	0.39	0.81	0.50	0.52	0.35
No	0.45	0.45	0.51	0.42	0.83	0.56	0.56	0.41
Someone in the neighborhood is COVID-19 positive								
Yes	0.48	0.46	0.54	0.42	0.87	0.56	0.59	0.41
No	0.40	0.41	0.49	0.41	0.80	0.54	0.52	0.38

Note. SD=Standard Deviation; Numbers in **bold**: scores are significantly different between the corresponding subgroups; $p<0.05$

Table 5. Correlation between Depression, Anxiety, Stress, and Total Scores and Sociodemographic and Pandemic-Related Characteristics

	Depression	Anxiety	Stress	Total
Age	-0.209	-0.233	-0.229	-0.257
Spouse's age	-0.210	-0.210	-0.187	-0.238
Length of marriage	-0.202	-0.216	-0.216	-0.243
Number of children	-0.074	-0.088	-0.056	-0.087

Note. All correlations are statistically significant; $p<0.05$

Table 6. Multivariate Analysis

Characteristics	Depression		Anxiety		Stress		Total	
	Coef.	<i>p</i>	Coef.	<i>p</i>	Coef.	<i>p</i>	Coef.	<i>p</i>
Age	-0.005	0.220	-0.014	0.000	-0.010	0.050	-0.010	0.010
Spouse's age	-0.006	0.088	0.001	0.784	0.001	0.854	-0.002	0.577
Length of marriage	-0.006	0.134	-0.002	0.677	-0.014	0.007	-0.006	0.098
Number of children	-0.037	0.040	-0.011	0.522	0.029	0.204	-0.012	0.457
Knowing someone who is COVID-19 positive								
No	0.061	0.036	-0.027	0.340	-0.011	0.760	0.011	0.682
Knowing neighbor who is COVID-19 positive								
No	-0.084	0.000	-0.066	0.002	-0.072	0.012	-0.074	0.000
Constant	1.087	0.000	1.121	0.000	1.520	0.000	1.196	0.000

4. Discussion

During the COVID-19 pandemic, the Indonesian government implemented large-scale social restrictions to control it. These measures ordered everyone, including mothers, to work from home and assist their children in homeschooling. This study investigated the psychological distress experienced by Indonesian mothers with at least one child. Demographic and pandemic-related characteristics were influenced to determine those symptoms.

We found that the level of psychological distress domain scores remained relatively low. Stress (i.e., frequency of tension, agitation, and negative affect) was the most frequently experienced domain reported by the respondents, followed by anxiety (i.e., autonomic arousal, physiological hyperarousal, and the subjective feeling of fear) and depression (i.e., hopelessness, low self-esteem, and low positive affect). This finding is in line with that of Ahmed et al. (2020) in China; that is, among their respondents, anxiety and depression were prevalent psychological problems related to the COVID-19 outbreak. Although not in a pandemic context, research in Australia and New Zealand demonstrated similar results: mothers of young children reported lower psychological well-being scores than national average scores (Lovell et al., 2015).

We found that knowing a COVID-19-positive neighbor might have increased mothers' psychological distress symptoms. A study conducted in Australia on the rate of psychological distress during a flu epidemic found a similar result: residents in areas with a higher prevalence of the illness were more likely to experience mental distress (Taylor et al., 2008). An argument could be that individuals who know that a possible source of a virus is near to their residence experience high levels of

anticipatory anxiety: the uncertainty of a possible future threat (i.e., COVID-19) disrupts the ability to avoid it or to mitigate its negative impact and results in anxiety (Grupe & Nitschke, 2013).

We also found that the older the mother, the greater the number of years she is married, and the more children she has, the lower her level of psychological distress symptoms. Ahmed (2020) also reported that adults aged between 21 and 40 years were more vulnerable to experiencing psychological distress. He argued that these young adults have more access to information regarding the pandemic and its negative impacts from social media and online news, increasing their anxiety and stress. That study did not consider mothers' age as a criterion to participate, only whether they had one or more school-age children that lived with them. Therefore, the age range of the mothers was wide: 21–65 years. An argument could be that the older and more experienced mothers could manage psychological distress in the time of the COVID-19 pandemic better than the younger ones could. This finding is supported by several studies that have demonstrated that age correlates with more mature coping stress and defense mechanisms (Fornés-Vives et al., 2016; Whitty, 2003). Concerning the length of marriage, the longer a couple is married, the more expertise they possess in providing social support to each other, especially in stressful situations such as the COVID-19 pandemic. Social support has been proven to serve as a stress buffer: providing psychological and material resources necessary to cope with stress (Cohen, 2004).

The limitations of this study must be acknowledged. The strategy of collecting data by using online questionnaires limited the sample to internet users, who typically have a higher level of education and are more likely to reside in urban areas than those who do not use

the internet. Thus, caution should be used when generalizing the results to groups of mothers with different characteristics. Additionally, pre-pandemic data of psychological distress were unavailable; thus, we had no pre-pandemic baseline scores to compare with our results to determine whether they would differ.

5. Conclusion

Our results offer baseline data on the psychological distress of Indonesian mothers during the period of the COVID-19 pandemic from December 2019 to July 2020. Age, length of marriage, number of children, and having someone in the neighborhood that tested positive for COVID-19 were the factors that affected the mothers' psychological distress. These results can serve as baseline data for further research on the impact of COVID-19 on Indonesian mothers throughout the pandemic.

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