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Original Article

Anxiety, Depression, and Associated Factors among General Population in Indonesia during COVID-19 Pandemic: A Cross-Sectional Survey

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Abstract
Introduction: The 2019 coronavirus pandemic (COVID-19) has affected the physical and mental health of individuals, families, and communities worldwide including Indonesia. This study aimed to examine anxiety and depression in the general population and factors related to anxiety and depression due to the COVID-19 pandemic.
Methods: This study employed an online cross-sectional survey of 1149 respondents. We assessed self-reports regarding current health conditions and exposure to COVID-19, anxiety, and depression in the general population in Indonesia.
Results: The results showed that 26.6% and 30.5% of the participants experienced mild to severe anxiety and depression, respectively. The ordinal regression test showed that anxiety in the community was significantly related to age, feeling infected with COVID-19, feeling that a friend/colleague is infected with COVID-19, sufficient information regarding COVID-19, and the types of symptoms that are felt (fever, cough, and cold/sore throat, difficulty breathing). Besides, education level, occupation, feeling that family is infected with COVID-19, symptoms experienced, and anxiety were significantly related to depression.
Conclusion: The COVID-19 pandemic has caused anxiety and depression in the general population in Indonesia. This study's results can be a catalyst in providing psychological interventions for the general public facing the COVID-19 pandemic.

Introduction

A series of unexplained pneumonia cases have been reported in Wuhan, China, since December 2019. The COVID-19 epidemic that emerged in Wuhan, China, has now spread worldwide. From 2020 until early 2022, Indonesia experienced two COVID-19 waves. The first wave occurred in June 2021 and began declining in September. Deaths due to COVID-19 in Indonesia peaked at the end of July 2021, with 12,444 deaths, an increase of 28.33% from the previous week.[1] At that time, it can be said that the Indonesian people were experiencing a tense period due to COVID-19, which raised the risk of losing their lives and impacted the emergence of mental health problems in the general population.

COVID-19 become a public health crisis that is faced not only by healthcare[2,3] but also by the general population. The COVID-19 pandemic affects the lives of individuals, families, communities, and even the global world at various levels, causing mental, cognitive, emotional, and behavioral disorders.[4] The COVID-19 pandemic is causing governments worldwide to take unprecedented steps to tackle the virus's further spread by closing cities, regions, and even countries (lockdown) and mass screening to reduce incidence and mortality rates.[5] This pandemic has caused severe threats to physical health and human life and triggered various psychological problems. During disease outbreaks, public anxiety and depression increased during the lockdown, after the first death, and after reports in the media, and the number of new cases increased.[6,7]

COVID-19 is a serious disease with considerable challenges, especially for infected patients, due to various physical and psychosocial difficulties.[8,9] Symptoms of anxiety and depression include excessive worry, irritability, difficulty relaxing, sleep disturbances, fatigue, lack of energy, and loss of interest.[10] To prevent the spread of COVID-19 more widely, several COVID-19 epicenter areas in Indonesia have implemented large-scale social restrictions. The government has also implemented a study, work-at-home policy, and vaccination program.[11] These sudden and unexpected changes in the situation in society can cause psychological problems.

Research on anxiety and depression in the community during the COVID-19 pandemic has been widely published before.[12,13] However, research on mental health problems and related factors in Indonesia was minimal, carried out early in the pandemic, and did not focus on the general population.[14] Therefore, the current study focuses on depression, which was previously unstudied, anxiety, and related factors in the Indonesian population who did not work as healthcare workers after the first wave of the COVID-19 pandemic. Adequate mental health will directly affect individual health, so it is essential to provide appropriate screening before the problems worsen. This study aimed to examine anxiety and depression among Indonesia's community and factors related to anxiety and depression during the COVID-19 pandemic.

Materials and Methods

This research was a cross-sectional study conducted in 2021 using an online survey distributed via the WhatsApp platform. This study involved the general population in East Java, Indonesia, with a total population of 40.16 million. We used a convenience sampling method using inclusion criteria: 1) at least 17 years old, 2) not a health worker, and 3) filling out informed consent as research respondents. Respondents were excluded if they respondents did not complete the questionnaire. The data collected amounted to 1214 respondents, and then the researchers performed data cleaning and obtained 1149 respondents (5% data have been excluded related to filling in incorrect or incomplete data). The minimum amount of data required for a minimum sample (using the Slovin formula without a population size, with a proportion of 9.8% (Proportion of organic mental disorders based on Indonesian National Health Research 2018) and a confidence level of 95% obtained a minimum sample size of 136 people So it could be concluded that the data collected is sufficient for the number of samples needed to test the hypothesis.

The questionnaire consists of demographic data, self-reports related to health conditions and exposure to COVID-19, and anxiety and depression problems. Demographic data includes age (years), gender (male or female), education (elementary school, primary school, high schools), and occupation (civil servants, private employees, self-employed, homemakers, not working, or others).

The self-report section covers questions about current health conditions and exposure to COVID-19. The following questions determine current health conditions and exposure to COVID-19: Do you think you/your family/friends in your work environment are infected with COVID-19? Are you well-informed about COVID-19? Where is the information obtained? Are your activities disrupted due to COVID-19? Do you have any symptoms of COVID-19? Do you have a travel history to the affected areas in the last 14 days? And do you have any possible contacts for COVID-19?

Generalized Anxiety Disorder (GAD-7) and Patient Health Questionnaire (PHQ-9) assessed the respondents' anxiety and depression. GAD-7 and PHQ-9 have good validity and reliability. GAD-7 is an evaluation of the severity of anxiety through self-assessment. The total score is categorized as follows: (0-4) minimal anxiety, (5-9) mild anxiety, (10-14) moderate anxiety, and (15-21) severe anxiety.[15] PHQ-9 is an evaluation of the severity of depression through self-assessment. The total scores are categorized as follows: (0-4) minimal depression, (5-9) mild depression, (10-14) moderate depression, (15-19) moderately severe depression, and (20-27) severe depression.[16] These categories are based on the scores assigned in the literature. The cutoff scores for detecting severe symptoms of anxiety and depression were 7 and 10. Respondents with scores more significant than the threshold were characterized as having severe symptoms. All questionnaire in this study was written in Indonesian versions. The GAD-7 questionnaire passed the validity and reliability test from the previous research with a correlation coefficient of 0.64 to 0.80, and Cronbach alpha was 0.86.[17] At the same time, the validity and reliability of the PHQ-9 questionnaire were indicated by the correlation coefficient of 0.52 and Cronbach's alpha of 0.88, respectively.[18]

Descriptive analysis was employed to calculate demographic characteristics, self-report health conditions, anxiety, and depression. This analysis also used frequency distribution for categorical variables, while the mean and standard deviation were deployed for numeric variables. Bivariate analysis using Spearman rank analysis and contingency coefficient was used to see the correlation between variables. Correlation analysis is considered to be significantly related if $P < 0.05$. The multivariate analysis employed the ordinal regression analysis to assess factors associated with anxiety and depression in the community during COVID-19. Data analysis was then performed using the statistical program.

This study has accepted permission from the Health Research Ethics Commission of the Faculty of Medicine Universitas Brawijaya Malang Number 243/EC//KEPK/08/2021. Respondents have explained the purposes, advantages, and disadvantages that might be experienced

in the study process before participating. Respondents who participated in the study signed informed consent. Respondents' participation in this research was voluntary.

Results

The finding of this study showed that among the 1149 respondents, most were 25 years old, with the gender of 917 respondents (79.8%) being women. Most respondents (52.8%) have intermediate (primary schooling) education and 73.3% do not work. In the self-report section, 13.1% of respondents contended that they might be infected with COVID-19, and 1.5% argued that they were infected with COVID-19. As many as 7.2% of respondents stated that their family was likely infected, and 0.3% were infected. Meanwhile, 19.7% of respondents confessed that it was likely that their coworkers were infected, and 3% of them were infected with the virus. Most of the respondents (94%) contended that they obtained enough information related to COVID-19, and the remaining 5.7% of respondents said that they did not get enough information, with 85.5% of respondents searching for sources of information from the internet. Most of them (82.2%) stated that this pandemic disrupted their work. Some people experienced fever symptoms (2.2%), cough and cold or sore throat (12.1%), difficulty breathing (0.8%), and felt the two signs of symptoms above 3.8% of respondents. Most of the 98.3% of respondents did not travel to areas affected by COVID-19, and 93% did not have a history of contact with respondents exposed to COVID-19 (Table 1).

In conclusion, most participants experienced minimal anxiety (73.4%) and minimal depression (69.5%). Meanwhile, 26.6% and 30.5% experienced mild to severe anxiety and depression, respectively.

The result of bivariate analysis indicated a significant relationship between age and disturbed activities with anxiety during COVID-19, with *P* values of 0.036 and 0.021, respectively. Also, self-reporting regarding feelings of being infected with COVID-19 in oneself, family, and friends in a work environment and the appearance of physical symptoms of being infected with COVID-19 associated with anxiety symptoms (*P* value: 0.00). Regarding depression, age, work status, receiving information related to COVID-19, and feeling that their activities are disturbed due to COVID-19 were significantly correlated with depression during COVID-19 with a *P* value of 0.002, 0.001, 0.03, and 0.004. Similar to anxiety, self-report related to feelings of being infected with COVID-19 in oneself, family, friends in a work environment and the appearance of physical symptoms of being infected with COVID-19 related to depression (*P* value: 0.00). In conclusion, there was a significant relationship between anxiety and depression due to COVID-19, as indicated by a *P* value of 0.00.

Based on the regression analysis in Table 2, it can be seen that variables related to anxiety include: age (higher age tends to experience lower anxiety than younger ages), feeling infected with COVID-19 (someone who has known that they are infected will experience higher anxiety than those who do not know they have been infected), feel that a friend/coworker is infected with COVID-19 (someone who has known that a friend/coworker has been infected will experience higher anxiety than those who do not know that they are infected), sufficient information regarding COVID-19 (insufficient information related to COVID-19 tends to experiencing higher anxiety than someone who has adequate information), the origin of information associated with COVID-19 (someone who gets information from television and institutions regarding information related to COVID-19, then that person will experience higher anxiety), and the type of symptoms felt (someone who has symptoms of fever/history of fever, cough cold/sore throat, and shortness of breath/difficulty breathing, will have higher anxiety than those without symptoms). Table 3 describes the coefficient of determination of the model. The Nagelkerke score showed a coefficient of determination of 0.129, which means that the independent variable can explain the dependent variable by 12.9%. In comparison, 87.1% was influenced by other factors not included in model testing.

In the independent variable, the variable related to depression included education level (low levels of education tend to have a higher depression than higher levels of education), employment status (someone who works will tend to experience more severe depression than those who do not work), feeling family infected with COVID-19 (someone who has known the family has been infected will experience higher depression than those who do not know they have been infected), the type of symptoms experienced (someone who has fever symptoms/history of fever, cough, and cold/sore throat, and shortness of breath/difficulty breathing, will experience depression which is higher than without symptoms), and anxiety (someone who has a high level of anxiety tends to experience more severe depression) (Table 4). In the depression, the Nagelkerke test indicated a coefficient of determination of 0.43, which means that the independent variable can explain the dependent variable by 43.7%. In comparison, 56.3% is influenced by other factors not included in the test model.

Discussion

The present study reports a significant relationship between age and anxiety during COVID-19. The general population at a younger age tends to experience anxiety. This study's results align with research conducted by Bolarinwa et al[19] showing that at the age of fewer than 40 years, more than 60% experienced stress during the COVID-19 pandemic. People experience anxiety because they are worried about being exposed to the virus during a pandemic.[20] Young people around 20 years of age feel worried and have trouble sleeping due to accessing social media information that cannot be verified.[21] In young

Table 1. Demography and bivariate analysis of each variable (n = 1149)

No	Characteristics	Anxiety, N (%)					*P* value (r)	Depression, N (%)						*P* value (r)
		Severe	Moderate	Mild	Minimal	Total		Severe	Moderately Severe	Moderate	Mild	Minimal	Total	
Demography														
1	Age (year); Mean (SD)						0.036* (0.062)							0.002* (0.090)
2	Gender													
	Female	25 (2.2)	32 (2.8)	201 (17.5)	659 (57.4)	917 (79.8)	0.103 (0.073)	10 (0.9)	19 (1.7)	47 (4.1)	218 (19.0)	623 (54.2)	917 (79.8)	0.087 (0.084)
	Male	6 (0.5)	8 (0.7)	34 (3.0)	184 (16)	232 (20.2)		4 (0.3)	6 (0.5)	8 (0.7)	38 (3.3)	176 (15.3)	232 (20.2)	
3.	Education													
	Elementary	1 (0.1)	2 (0.2)	3 (0.3)	16 (1.4)	22 (1.9)	0.457 (0.070)	0 (0)	0 (0)	1 (0.1)	3 (0.3)	18 (1.6)	22 (1.9)	0.874 (0.057)
	Primary	14 (1.2)	16 (1.4)	128 (11.1)	449 (39.1)	607 (52.8)		6 (0.5)	15 (1.3)	32 (2.8)	134 (11.7)	420 (36.6)	607 (52.8)	
	Higher Education	16 (1.4)	22 (1.9)	104 (9.2)	378 (32.9)	520 (45.3)		8 (0.7)	10 (0.9)	22 (1.9)	119 (10.4)	361 (31.4)	520 (45.3)	
4.	Occupation													
	Working	8 (0.7)	6 (0.5)	52 (4.5)	241 (21.0)	307 (26.7)	0.077 (0.077)	6 (0.5)	6 (0.5)	5 (0.4)	54 (4.7)	236 (20.5)	307 (26.7)	0.001* (0.124)
	Not working	23 (2.0)	34 (3.0)	183 (15.9)	602 (52.4)	842 (73.3)		8 (0.7)	19 (1.7)	50 (4.4)	202 (17.6)	563 (49.0)	842 (73.3)	
Self-report health conditions and exposure to COVID-19														
1.	Do you feel infected by COVID-19?													
	Yes	2 (0.2)	0 (0.0)	7 (0.6)	9 (0.7)	17 (1.5)	0.000* (0.218)	2 (0.2)	0 (0.0)	1 (0.1)	6 (0.5)	8 (0.7)	17 (1.5)	0.000* (0.223)
	Maybe	5 (0.4)	12 (1.0)	56 (4.9)	78 (6.8)	151 (13.1)		2 (0.2)	8 (0.7)	10 (0.9)	58 (5.0)	73 (6.4)	151 (13.1)	
	No	24 (2.1)	28 (2.4)	172 (15.0)	757 (65.9)	981 (85.4)		10 (0.9)	17 (1.5)	44 (3.8)	192 (16.7)	718 (62.5)	981 (85.4)	
2.	Is there a family member who is suspect/infected with COVID-19?													
	Yes	2 (0.2)	0 (0.0)	0 (0.0)	21 (0.2)	4 (0.3)	0.000* (0.220)	2 (0.2)	0 (0.0)	0 (0.0)	1 (0.1)	1 (0.1)	4 (0.3)	0.000* (0.281)
	Maybe	7 (0.6)	6 (0.5)	25 (2.2)	45 (3.9)	83 (7.2)		1 (0.1)	6 (0.5)	7 (0.6)	25 (2.2)	44 (3.8)	83 (7.2)	
	No	22 (1.9)	34 (3.0)	210 (18.3)	796 (69.3)	1062 (92.4)		11 (1.0)	19 (1.7)	48 (4.2)	230 (20.0)	752 (65.6)	1062 (92.4)	
3.	Are there friends in the same work environment who are suspect/infected with COVID-19?													
	Yes	3 (0.3)	2 (0.2)	11 (1.0)	19 (1.7)	35 (3.0)	0.000* (0.183)	3 (0.3)	0 (0.0)	3 (0.3)	11 (1.0)	18 (1.6)	35 (3.0)	0.000* (0.223)
	Maybe	10 (0.9)	17 (1.5)	61 (5.3)	138 (12.0)	226 (19.7)		1 (0.1)	12 (1.0)	20 (1.7)	67 (5.8)	126 (11.0)	226 (19.7)	
	No	18 (1.6)	21 (1.8)	163 (14,2)	686 (59.7)	888 (77.3)		10 (1.2)	13 (1.1)	32 (2.8)	178 (15.5)	655 (57.0)	888 (77.3)	
4.	Do you feel that you received enough information regarding COVID-19?													
	No	3 (0.3)	3 (0.3)	19 (1.7)	40 (3.5)	65 (5.7)	0.164 (0.066)	2 (0.2)	3 (0.3)	7 (0.6)	10 (0.9)	43 (3.7)	65 (5.7)	0.032* (0.095)
	Yes	28 (2.4)	37 (3.2)	216 (18.8)	803 (69.9)	1084 (94.3)		12 (1.0)	22 (1.9)	48 (4.2)	246 (21.4)	746 (65.8)	1084 (94.3)	
5.	Where do you get information related to COVID-19?													

Table 1. Continued.

No	Characteristics	Anxiety, N (%)					*P* value (r)	Depression, N (%)						*P* value (r)
		Severe	Moderate	Mild	Minimal	Total		Severe	Moderately Severe	Moderate	Mild	Minimal	Total	
	Social media/Internet	26 (2.3)	36 (3.1)	208 (18.1)	719 (62.6)	989 (86.1)	0.256 (0.113)	13 (1.1)	24 (2.1)	49 (4.3)	225 (19.6)	678 (59.0)	989 (86.1)	0.340 (0.123)
	TV	5 (0.4)	2 (0.2)	21 (1.8)	91 (7.9)	119 (10.4)		1 (0.1)	1 (0.1)	4 (0.3)	20 (1.7)	93 (8.1)	119 (10.4)	
	Printed media	0 (0.0)	0 (0.0)	1 (0.1)	5 (0.4)	6 (0.5)		0 (0.0)	0 (0.0)	1 (0.1)	0 (0.0)	5 (0.4)	6 (0.5)	
	Institutions (campus/office)	0 (0.0)	0 (0.0)	4 (0.3)	8 (0.7)	14 (1.2)		0 (0.0)	0 (0.0)	1 (0.1)	7 (0.6)	6 (0.5)	14 (1.2)	
	Health workers	0 (0.0)	0 (0.0)	1 (0.1)	20 (1.7)	21 (1.8)		0 (0.0)	0 (0.0)	0 (0.0)	4 (0.3)	17 (1.5)	21 (1.8)	
6.	I feel like my activities are interrupted because of COVID-19													
	Yes	24 (2.1)	31 (2.7)	209 (18.2)	209 (18.2)	680 (59.2)	0.021* (0.092)	12 (1.0)	17 (1.5)	50 (4.4)	226 (19.7)	639 (55.6)	994 (82.2)	0.004* (0.116)
	No	7 (0.6)	9 (0.8)	26 (2.3)	163 (14.2)	205 (17.8)		2 (0.2)	8 (0.7)	5 (0.4)	30 (2.6)	160 (13.9)	205 (17.8)	
7.	Do you have any of the following symptoms regarding COVID-19													
	Fever	4 (0.3)	3 (0.3)	15 (1.3)	21 (1.8)	43 (3.7)	0.000* (0.245)	2 (0.2)	2 (0.2)	9 (0.8)	14 (1.2)	16 (1.4)	43 (3.7)	0.000* (0.253)
	Cough, Cold/Sore Throat	4 (0.3)	9 (0.8)	49 (4.3)	93 (8.1)	155 (13.5)		1 (0.1)	8 (0.7)	7 (0.6)	52 (4.5)	87 (7.6)	155 (13.5)	
	Shortness of breath/difficulty breathing	3 (0.3)	4 (0.3)	5 (0.4)	7 (0.6)	19 (1.7)		1 (0.1)	2 (0.2)	1 (0.1)	7 (0.6)	8 (0.7)	19 (1.7)	
	No symptoms	20 (1.7)	24 (2.1)	166 (14.4)	722 (62.8)	932 (81.1)		10 (1.2)	13 (1.1)	38 (3.3)	183 (15.9)	688 (59.9)	932 (81.1)	
8.	History of traveling to areas affected by COVID-19													
	Yes	1 (0.1)	2 (0.2)	6 (0.5)	10 (0.9)	19 (1.7)	0.137 (0.069)	0 (0.0)	1 (0.1)	2 (0.2)	6 (0.5)	10 (0.9)	19 (1.7)	0.412 (0.059)
	No	30 (2.6)	38 (3.3)	229 (19.9)	833 (72.5)	1130 (98.3)		14 (1.2)	24 (2.1)	53 (4.62)	250 (21.8)	789 (68.7)	1130 (98.3)	
9.	History of exposure related to COVID-19													
	History of close contact with confirmed cases of COVID-19	0 (0.0)	1 (0.1)	1 (0.1)	4 (0.3)	6 (0.5)	0.722 (0.073)	0 (0.0)	0 (0.0)	0 (0.0)	3 (0.3)	3 (0.3)	6 (0.5)	0.658 (0.091)
	Working or visiting health facilities related to COVID-19	3 (0.3)	4 (0.3)	19 (1.7)	51 (4.4)	757 (6.7)		1 (0.1)	2 (0.2)	5 (0.4)	17 (1.5)	52 (4.5)	77 (6.7)	
	History of contact with an identified infectious animal	0 (0.0)	0 (0.0)	1 (0.1)	2 (0.2)	3 (0.3)		0 (0.0)	0 (0.0)	1 (0.1)	1 (0.1)	1 (0.1)	3 (0.3)	
	Not exposed	28 (2.4)	35 (3.0)	214 (18.6)	786 (68.4)	1063 (92.5)		13 (1.1)	23 (2.0)	29 (4.3)	235 (20.5)	743 (64.7)	1063 (92.5)	
10.	General Anxiety Disorder (GAD-7)													
	Severe anxiety					31 (2.7)		11 (1.0)	8 (0.7)	8 (0.7)	3 (0.3)	1 (0.1)	31 (2.7)	0.000* (0.585)
	Moderate anxiety					40 (3.5)		1 (0.1)	9 (0.8)	9 (0.8)	18 (1.6)	3 (0.3)	40 (3.5)	
	Mild anxiety					235 (20.5)		2 (0.2)	6 (0.5)	28 (2.4)	116 (10.1)	83 (7.2)	235 (20.5)	
	Minimal anxiety					843 (73.4)		0 (0.0)	2 (0.2)	10 (0.9)	119 (10.4)	712 (62.0)	843 (73.4)	

Note: 1) *Significant correlation ($P<\alpha$, $\alpha=0,05$); 2) r = correlation coefficient value, a positive value (+) is defined as a unidirectional relationship, a negative value (-) is defined as an opposite relationship

Table 2. Multivariate ordinal regression analysis of respondents' anxiety

Variable	Category	Estimate	Wald	df	*P* value
Dependent					
Anxiety (Y)	Severe (Y_1)	- 5.62	23.67	1	0.00*
	Moderate (Y_2)	- 4.71	16.87	1	0.00*
	Mild (Y_3)	- 2.84	6.23	1	0.01*
Independent					
Age (X_1)		0.02	5.53	1	0.01*
Gender (X_2)	Female	- 0.18	0.91	1	0.33
Education (X_3)	Elementary ($X_{3(1)}$)	-0.63	1.41	1	0.23
	Primary ($X_{3(2)}$)	0.16	1.04	1	0.30
Occupation (X_4)	Working	0.35	2.24	1	0.13
Feeling that you have COVID-19 (X_5)	Yes ($X_{5(1)}$)	- 0.44	0.57	1	0.38
	Maybe ($X_{5(2)}$)	- 0.65	7.10	1	0.00*
Feeling that your family is infected with COVID-19 (X_6)	Yes ($X_{6(1)}$)	- 1.84	3.07	1	0.07
	Maybe ($X_{6(2)}$)	- 0.47	2.89	1	0.08
Feeling that a friend/coworker is infected with COVID-19 (X_7)	Yes ($X_{7(1)}$)	- 0.94	5.52	1	0.01*
	Maybe($X_{7(2)}$)	- 0.22	1.11	1	0.29
Information sufficiency related to COVID-19 (X_8)	No	- 0.65	5.53	1	0.01*
Sources of information related to COVID-19 (X_9)	Social media/internet($X_{9(1)}$)	- 1.88	3.11	1	0.07
	TV ($X_{9(2)}$)	- 2.25	4.30	1	0.03*
	Printed media($X_{9(3)}$)	- 1.49	0.92	1	0.36
	Institution ($X_{9(4)}$)	- 2.52	4.47	1	0.03*
Interrupted activity/work (X_{10})	Yes	- 0.24	1.52	1	0.21
Types of symptoms felt (X_{11})	Fever/history of fever ($X_{11(3)}$)	- 0.85	7.13	1	0.008*
	Cough and cold/sore throat ($X_{11(2)}$)	- 0.50	6.67	1	0.01*
	Shortness of breath/difficulty breathing ($X_{11(3)}$)	- 1.59	12.10	1	0.001*
History of traveling to affected areas (X_{12})	Yes	- 0.69	2.15	1	0.14
History of possible contact with COVID-19 (X_{13})	History of close contact with confirmed cases of COVID-19($X_{13(1)}$)	0.08	0.007	1	0.93
	Work or visit health facilities ($X_{13(2)}$)	- 0.22	0.64	1	0.42
	Have a history of contact with infectious animals ($X_{13(3)}$)	0.16	0.01	1	0.90

Note: 1) *significant correlation ($P<\alpha$, $\alpha=0.05$).

people, stress, anxiety, and depression were the most common mental health issues during the pandemic.[22] Productive age and lack of social support, family, and medical personnel are at risk of causing anxiety, depression, and sleep disorders during a pandemic.[23]

This study's findings also indicate a significant relationship between feeling infected with COVID-19 in oneself, friends and the appearance of physical symptoms with anxiety. During COVID-19, about 50%, over 60%, and 80% of women worry about their health and their children and relatives.[24] This means that someone who knows they are infected will feel more anxious. Someone who experiences symptoms or has experience of being exposed to COVID-19 from friends in the office will feel more anxious.[25] A person becomes worried when the possibility of contact with an infected coworker is then at risk of transmitting to the child and family.[26] Anxiety related to infection and the impact of COVID-19 can cause changes in behavior to panic, causing emotional distress and social disorders.[27] They tried to prevent this by choosing to live separately from their families, but feelings of anxiety increased.[26] Living apart from loved ones for a long time causes psychological disorders and the risk of psychiatric problems.[28]

Sufficient information regarding COVID-19 is significantly related to self-anxiety. Research González-Sanguino et al[29] showed that receiving sufficient information regarding COVID-19 is a protective factor for anxiety symptoms. Someone who is informed and knowledgeable will create a high awareness of infection control measures and become anxious when there is insufficient information,[21] even though exposure to excessive information from various unclear social media can increase stress and anxiety.[30] Anxiety occurs when there are infodemics in fake news, conspiracy theories, and drugs that can heal instantly.[31] Thus, it is imperative to inform the public to access official health websites belonging to state and international health agencies.[32]

Table 3. Test the coefficient of determination for the model for anxiety and depression

Variable	Score
Anxiety	
Cox and Snell	0.10
Nagelkerke	0.12
McFadden	0.07
Depression	
Cox and Snell	0.36
Nagelkerke	0.43
McFadden	0.25

Link function: logit.

This information is necessary so that regulations related to its circulation are needed, including WHO's cooperation with various social media.[33] Most people get information from television regarding accurate details pertaining to COVID-19 and infection prevention strategies.[30] The public also seeks information while undergoing social restrictions during the pandemic through electronic media with internet connectivity.[31]

Occupation also has a significant relationship with anxiety due to COVID-19. One's job is related to the economy, during a pandemic, economic change and increasing crime rates make it even more worrying.[20] Economic anxiety is also more common in young adults than in older adults.[34] Anxiety over the financial crisis occurs when social distancing, self-isolation, and travel

Table 4. Multivariate ordinal regression analysis of respondents' depression

Variable	Category	Estimate	Wald	df	*P* value
Dependent					
Depression (Y)	Severe (Y_1)	- 7.45	88.65	1	0.00*
	Moderate Severe (Y_2)	- 5.87	63.84	1	0.00*
	Moderate (Y_3)	- 4.37	38.23	1	0.00*
	Mild (Y_4)	- 1.87	8.35	1	0.007*
Independent					
Age (X_1)		- 0.004	0.52	1	0.47
Gender (X_2)	Female	- 0.06	0.11	1	0.73
Education (X_3)	Elementary ($X_{3(1)}$)	1.53	3.95	1	0.04*
	Primary ($X_{3(2)}$)	- 0.17	1.04	1	0.30
Occupation (X_4)	Working	0.42	3.97	1	0.04*
Feeling that you have COVID-19 (X_5)	Yes ($X_{5(1)}$)	- 0.27	0.20	1	0.65
	Maybe ($X_{5(2)}$)	- 0.35	1.85	1	0.17
Feeling that your family is infected with COVID-19 (X_6)	Yes ($X_{6(1)}$)	- 2.78	5.14	1	0.02*
	Maybe ($X_{6(2)}$)	0.23	0.56	1	0.45
Feeling that a friend/coworker is infected with COVID-19 (X_7)	Yes ($X_{7(1)}$)	- 0.32	0.58	1	0.44
	Maybe ($X_{7(2)}$)	- 0.32	2.22	1	0.13
Information sufficiency related to COVID-19 (X_8)	No	- 0.25	0.70	1	0.40
Sources of information related to COVID-19 (X_9)	Social media/internet ($X_{9(1)}$)	0.42	0.47	1	0.49
	TV ($X_{9(2)}$)	0.77	1.32	1	0.25
	Printed media ($X_{9(3)}$)	0.19	0.02	1	0.87
	Institution ($X_{9(4)}$)	0.04	0.003	1	0.95
Interrupted activity /work (X_{10})	Yes	- 0.40	3.50	1	0.06
Types of symptoms felt (X_{11})	Fever/history of fever ($X_{11(3)}$)	- 0.95	8.02	1	0.005*
	Cough and cold ($X_{11(2)}$) sore throat	- 0.23	1.27	1	0.25
	Shortness of breath/difficulty breathing ($X_{11(3)}$)	0.45	0.70	1	0.40
History of traveling to affected areas (X_{12})	Yes	0.03	0.005	1	0.94
History of possible contact with COVID-19 (X_{13})	History of close contact with confirmed cases of COVID-19 ($X_{13(1)}$)	- 0.67	0.43	1	0.51
	Work or visit health facilities ($X_{13(2)}$)	0.45	2.03	1	0.15
	Have a history of contact with infectious animals ($X_{13(3)}$)	- 1.66	2.22	1	0.13
Anxiety (X_{14})	Severe ($X_{14(1)}$)	- 6.32	203.19	1	0.00*
	Moderate ($X_{14(2\_)}$)	- 4.13	140.49	1	0.00*
	Mild ($X_{14(3)}$)	- 2.21	171.94	1	0.00*

Note: 1) *significant correlation ($P<\alpha$, $\alpha=0.05$).

restrictions have resulted in a reduced labor force in all sectors of the economy and caused many people to lose their jobs.[35] Greater job insecurity is indirectly associated with more significant anxiety symptoms due to more substantial financial problems.[36] The pandemic requires individuals to regulate social distancing, travel bans, cancellation of sporting events, and changes in work practices to affect everyday life.[37]

In terms of depression, this study showed that there was a significant relationship between age and depression due to COVID-19. Young adults (< 35 years), women and the unemployed will feel more burdened, so they are more at risk of experiencing depression.[38] Young people with poor economic conditions and are required to stay at home during a pandemic are at increased risk of experiencing depression due to worries about the future.[39] Young people have less effective emotional regulation, cognitive abilities, maladaptive coping, and lack of social support.[39] Psychosomatic symptoms such as insomnia, anxiety, feelings of loneliness, and depression are common.[40] Quarantine is a lousy experience for society, even though it benefits health if appropriately implemented.[41] The rapid spread of infection and the high mortality rate cause anxiety, depression, and stress in the community.[42] Thus, the importance of social support for emotional well-being, reducing anxiety and depression at the age of 18-34, groups of adolescents, students, workers, and housewives.[43]

Education has a significant relationship with depression. A relatively low educational background has a higher risk of experiencing anxiety or depression.[44] Lack of knowledge about diseases and easily feeling helpless in the face of a pandemic causes psychological disorders.[45] Higher education has better understanding and awareness, so it tends to reduce anxiety and depression.[46] The highest level of education in the community is high school, but in addition to formal education, physical health education related to prevention and psychology for the community can reduce anxiety and depression.[47] The level of education is associated with the physiological function and optimism of a person who is more aware of health, including knowledge, belief, service utilization, and good health behavior.[48]

Occupation has a significant relationship with depression. This is due to the disruption of activities and work due to COVID-19. A person feels pressured because long-term work and activities cannot be planned and cause financial losses.[41] Economic problems such as receiving financial support during a pandemic, depending on family for living, and low income were associated with higher depression symptoms.[49] Each country implements a lockdown that impacts people's livelihoods, increasing psychological morbidity. People who are infected and undergo isolation treatment lose their jobs and are afraid of being discriminated against, causing depression.[50] Decreasing household income causes an increased risk of mental disorders.[51]

There is a significant relationship between self-reporting related to signs of being infected with COVID-19 and depression. Psychological problems such as depression impact physical and emotional exhaustion for a long time, tormenting, reducing income, and social stigma.[41] A person undergoing quarantine during a pandemic has a fear of infecting other people, a fear of his illness, and limitations to meet the family.[52] Some people who experience symptoms of physical changes such as fever, sore throat, cough with phlegm, chills, high blood pressure, and muscle aches feel worried about being infected with COVID-19.[25] Feelings of fear, worry, depression, and depression occur because of prior contact with a patient diagnosed with COVID-19.[25]

Based on the research results, it can be concluded that there is a significant relationship between anxiety and depression due to COVID-19. The emergence of feelings of loneliness and anxiety due to social restrictions are the main risk factors for depression.[53] The groups most affected psychologically are women, individuals with a history of psychiatric illness, living in cities, and having chronic diseases.[54] A person's health behavior can be affected by depression and anxiety during a pandemic.[54] Psychological pressure is also felt by students, education, hospital patients, and health workers.[55] The general public feels anxious and depressed because of social restrictions during the early pandemic.[41] Depression occurs because of feeling the burden of fear of transmitting to others, changes in living conditions, and increasing the number of infected patients.[56]

Therefore, it is crucial to identify anxiety and depression and the related factors due to them having worse consequences on mental health, such as suicidal behavior.[57] Although the present study employed a valid instrument for data gathering, the limitation of this study was the recruitment process. Approximately 5% of the respondents did not complete the questionnaire fully since it was an online survey. Therefore, future research is encouraged to consider a more effective respondent recruitment process. In addition, further research can explore the promised interventions to reduce psychological issues, especially anxiety and depression, among the Indonesian community. The development of effective intervention is essential because, based on these results research, 26.6% and 30.5% of respondents experienced mild to severe anxiety and depression, respectively.

Conclusion

The COVID-19 pandemic has created a worldwide health crisis due to rapid transmission and leading to death. Changes in various life arrangements are treated as an effort to prevent and reduce transmission. This condition causes the community to experience psychological disorders such as anxiety and depression. The anxiety in society is related to age, feeling infected by the virus in themselves and friends in the work environment,

adequate information and origin of information related to COVID-19, and the appearance of physical symptoms in individuals. Meanwhile, depression in society is related to the level of education, employment status, the types of symptoms experienced, and anxiety that occurred during the COVID-19 pandemic. This study's results can be considered to assist in the form of psychological services for the general public. These psychological services can be in the forms of relevant information media, face-to-face assistance, or online media as an effort to reduce anxiety and depression in the community so that it can improve the quality of care and prevent mental health problems for the general public in Indonesia who are currently facing the COVID-19 pandemic.

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Research Highlights
What is the current knowledge?
- Indonesia's community was experiencing a tense period due to the COVID-19 pandemic.
- The pandemic increased the risk of physical and mental health problems in the general population.
- Anxiety and depression in the community were prevalent mental health problems that arose, and it was essential to identify factors that contributed to the anxiety and depression.

What is new here?
- About 26.6% and 30.5% of respondents experienced mild to severe anxiety and depression.
- Age, feeling infected with COVID-19, feeling that a friend/colleague is infected with COVID-19, sufficient information regarding COVID-19, and the types of symptoms were significantly related to anxiety.
- In comparison, depression was significantly associated with education, occupation, feeling that a family member is infected with COVID-19, and anxiety in the general population.

Competing Interests
The authors declare that there is no conflict of interest regarding the publication of this paper.

Data Availability Statement
All data generated or analyzed during this study are included in this published article.

Ethical Approval
This article did not report the participants' details. However, before the focus group discussion, written informed consent for publication was obtained from the participants. There are no ethical issues.

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