

Profile and Factors Associated with Depression, Anxiety, and Stress in Indonesian People During COVID-19 Pandemic

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Abstract

Background : As a result of the COVID-19 pandemic, Indonesia implemented various policies to break the chain of transmission of COVID-19, starting from large-scale social restrictions, quarantines, and even lockdowns. Without exception, schools were also closed. These conditions affect people psychologically, including levels of depression, anxiety, and stress in students. The aim of this study is to determine profile and factors associated with depression, anxiety, and stress in Indonesian people during the COVID-19 pandemic.

Methods : A cross-sectional study among students in Indonesia was conducted to determine depression, anxiety, and stress levels in adolescents based on their sociodemographic characters. The DASS-21 questionnaire was distributed online.

Results : A total of 913 people participated from all provinces in Indonesia. Depression, anxiety, and stress were found in 43.5%, 43.3%, 25.2%, respectively. The severity of depression was significantly associated with age ($p < 0.001$), gender ($p = 0.003$), and region ($p = 0.039$). Adults (25-55) are 4.6 times odds more likely to have depression than adolescent during pandemic (OR=4.641, 95% CI=2.053-10.491). The severity of anxiety was significantly associated with age ($p = 0.002$), gender ($p < 0.001$), education ($p = 0.004$) and region ($p = 0.004$). The severity of stress was significantly associated with gender ($p < 0.001$) and education ($p = 0.018$).

Conclusion : Depression, anxiety and stress quite common found in Indonesian during COVID-19 pandemic. Several sociodemographic factors were associated with depression, anxiety and stress among Indonesia

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Introduction

Coronavirus Disease (COVID-19) or severe acute respiratory syndrome 2 (SARS-COV-2) is an illness caused by a novel coronavirus.¹ January 31st was the day where the director-general of WHO declared the outbreak as a public health emergency of international concern (PHEIC) after the first case reported in Wuhan, China, on December 31st 2019.² After going through the sequence and evolutionary tree analysis, SARS-COV-2 is classified as part of the β -CoVs family that causes respiratory, enteric, hepatic, and neurological diseases.³ The main route of SARS-CoV-2 transmission is between humans and humans, causing the spread to become more aggressive.⁴ Indonesia is one of the countries affected by this virus until February 25th, 2021, 1.306.141 people are confirmed to be COVID-19 positive.⁵ On March 15th, President Jokowi announced national social distancing and encouraged people to work, study, worship at home and postponed any large-scale events.⁶

However, this preventive policy has affected the education sector since March 2020.⁷ Students in Indonesia have to study online from home. Teens tend to be more vulnerable and feel more psychological impact than adults. Impact psychologically on adolescents cover lack of social interaction, boredom due to staying at home, a lot of work, change in daily routine, and fear of Covid-19 infection.⁸

This study aims to determine profile and factors associated with depression, anxiety, and stress in Indonesian people during the COVID-19 pandemic.

Results

A total of 913 people from 34 provinces in Indonesia contributed to this study. Most of them are females (60.9%) and lives on Java Island (68.9%), age from

Methods

Study participants and sampling

This cross-sectional study started from February 4th to 16th, 2021. The Survey distributed through *Instagram*, *WhatsApp* groups, *Line* groups, and other social media using Ms. Forms.

Screening instruments

Demographic information

The survey contains questions about the respondents' sociodemographics such as age, gender, education level, religion, and the province where the respondent lives.

DASS-21

Dass-21 is a questionnaire used to measure a person's level of depression, anxiety, and stress. The questions on Dass-21 asked what conditions the subject had felt in the past week. Depression, anxiety, and stress level ratings are ranging from the scale of 0-28+ for depression, 0-20+ for anxiety, and 0-34+ for stress.⁹

Data Analyses

The data was analysed using SPSS version 22.0. The demographic data presented descriptively, the variables tested using a Chi-square test with a risk estimate and 95% confidence interval.

Ethical Consideration

The Ethics Committee of Faculty of Medicine, Pelita Harapan University has approved the protocol for this study. The approval letter was issued with the number 082/K-LJK/ETIK/II/2021.

15-55, and categorized into adolescents (15-24) and adults (25-55). The respondents are mostly in high school (74.5%), the rest are university students. Table 1 showed the sociodemographic characteristics of the respondents.

Table 1. Sociodemographic Characteristics of Participants

		Frequency (n=913)	Percentage (%)
Age (years Old)	15-24	867	93.8
	25-55	46	5.0
Gender	Male	350	37.9
	Female	563	60.9
Education	High School	688	74.5
	University	225	24.4
Religion	Moslem	122	13.2
	Christian	477	51.6
	Catholic	200	21.6
	Buddha	83	9.0
	Hindu	9	1.0
	Kong Hu Cu	2	0.2
	Others	12	1.3
Region	Java Island	637	68.9
	Outside Java Island	276	29.9

Displayed in Table 2, was data of DASS-21 among all the respondents. The table showed the degree of severity of each depression, anxiety, and stress in five

categories based on the DASS-21. Depression, anxiety, and stress were found in 43.5%, 43.3%, 25.2%, respectively.

Table 2. Severity of Depression, Anxiety, and Stress in Adolescent During Pandemic

Severity of Depression	Frequency (n=913)	Percentage (%)
Normal (0-9)	522	56.5
Mild (10-13)	175	18.9
Moderate (14-20)	151	16.3
Severe (21-27)	48	5.2
Extremely Severe (≥ 28)	27	2.9

Severity of Anxiety	Frequency (n=913)	Percentage (%)
Normal (0-7)	524	56.7
Mild (8-9)	95	10.3
Moderate (10-14)	180	19.5
Severe (15-19)	63	6.8
Extremely Severe (≥ 20)	61	6.6

Severity of Stress	Frequency (n=913)	Percentage (%)
Normal (0-14)	691	74.8
Mild (15-18)	96	10.4
Moderate (19-25)	60	6.5
Severe (26-33)	60	6.5
Extremely Severe (≥ 34)	17	1.8

Table 3. Bivariate Analysis between Sociodemographic Characteristics of Participants and Depression in Adolescent During Pandemic

		Depression Degree		Total (n=913)	OR (CI 95%)	p-value
		Normal-Moderate	Severe-Extremely severe			
Age	15-24	394 (45.4%)	473 (54.6%)	867	4.641 (2.053-10.491)	<0.001 (0.000)
	25-55	7 (15.2%)	39 (84.8%)	46		
Gender	Male	132 (37.7%)	218 (62.3%)	350	0.662 (0.504-0.869)	<0.01 (0.003)
	Female	269 (47.8%)	294 (52.2%)	563		
Education	High School	314 (45.6%)	374 (54.4%)	688	1.332 (0.979-1.811)	0.067
	University	87 (38.7%)	138 (61.3%)	225		
Regions	Java	294 (46.2%)	343 (53.8%)	637	1.354 (1.015-1.806)	0.039
	Outside					
	Java	107 (38.8%)	169 (61.2%)	276		

Table 3 showed the bivariate analysis results between sociodemographic characteristics of participants and depression variable. The data showed the severity of depression was significantly associated with age ($p < 0.001$), gender ($p = 0.003$), and Indonesia region ($p = 0.039$). While for depression and education were not significantly associated ($p > 0.05$). Adults (25-55) were 4.6 times odds more likely to

have depression than adolescent during pandemic (OR 4.641, 95% CI 2.053-10.491). University students (OR 1.332, 95% CI 0.979-1.811) and those who lived in outside Java island (OR 1.354 95% CI 1.015-1.806) were 1.3 times more likely to have severe depression. Male also more likely to have severe depression rather than female (OR 0.662, 95% CI 0.504-0.869).

Table 4. Bivariate Analysis between Sociodemographic Characteristics of Participants and Anxiety in Adolescent During Pandemic

		Anxiety Degree		Total (n=913)	OR (CI 95%)	p-value
		Normal- Moderate	Severe- Extremely severe			
Age	15-24	478 (55.1%)	389 (44.9%)	867	0.341 (0.167-0.697)	<0.01 (0.002)
	25-55	36 (78.3%)	10 (21.7%)	46		
Gender	Male	231 (66.0%)	119 (34.0%)	350	1.921 (1.1457-2.531)	<0.001 (0.000)
	Female	283 (50.3%)	280 (49.7%)	563		
Education	High school	371 (53.9%)	317 (46.1%)	688	0.671 (0.492-0.915)	0.011
	University	143 (63.6%)	82 (36.4%)	225		
Regions	Java	339 (53.2%)	298 (46.8%)	637	0.657 (0.491-0.878)	0.004
	Outside					
	Java	175(63.4%)	101 (36.6%)	276		

Table 4 showed the bivariate analysis results between sociodemographic characteristics of participants and anxiety variable. The severity of anxiety was significantly associated with age (p 0.002), gender (p <0.001), education (p 0.004) and Indonesian region (p 0.004). In contrary with

Table 3, adolescents (OR 0.341 95% CI 0.167-0.697), female (OR 1.921 95% CI 1.1457-2.531), high school student (OR 0.671, 95% CI 0.492-0.915) and those who lives in Java island (OR 0.657, 95% CI 0.491-0.878) were more likely to have severe anxiety.

Table 5. Bivariate Analysis between Sociodemographic Characteristics of Participants and Stress in Adolescent During Pandemic

		Stress Degree		Total (n=913)	OR (CI 95%)	p-value
		Normal- Moderate	Severe- Extremely severe			
Age	15-24	642 (74.0%)	225 (26.0%)	867	0.601 (0.276-1.307)	0.194
	25-55	38 (82.6%)	8 (17.4%)	46		
Gender	Male	293 (83.7%)	57 (16.3%)	350	2.338 (1.672-3.268)	<0.001 (0.000)
	Female	387 (68.7%)	176 (31.3%)	563		
Education	High school	499 (72.5%)	189 (27.5%)	688	0.642 (0.444-0.929)	0.018
	University	181 (80.4%)	44 (19.6%)	225		
Regions	Java	470 (73.8%)	167 (26.2%)	637	0.885 (0.637-1.228)	0.463
	Outside					
	Java	210 (76.1%)	66 (23.9%)	276		

Table 5 showed the bivariate analysis results between sociodemographic characteristics of participants and stress variable. The severity of stress was significantly associated with gender ($p < 0.001$) and education ($p = 0.018$). Adolescents (OR 0.601 95% CI 0.276-

1.307), high school student (OR 0.642, 95% CI 0.444-0.929) and those who lived in Java island (OR 0.885, 95% CI 0.637-1.228) were more likely to have severe stress. Female 2.3 times odds more likely to have severe stress (OR 2.338 95% CI 1.672-3.268).

Discussion

To our knowledge, this results may be the first study in 2021 that analyses the profile and factors associated with depression, anxiety, and stress in Indonesian people. In general, that's been worked for in the COVID-19 pandemics. Furthermore, Indonesia a developing country, along with others, still lacks a large number of studies regarding COVID-19 and its variables. This study determines the profile and factors associated with depression, anxiety, and stress in Indonesian people during the COVID-19 pandemic.

From the data, adults from the age group of 25-55 are potentially at risk of having depressive symptoms. Men are more vulnerable than women in the depression category. However, a journal from the United Arab Emirates stated how depression affects the younger age group and females more than it is to older age group and male gender.¹⁰ A discrepancy between data is available because of the different situations in every country during the pandemic. The study from the United Arab Emirates talks about how younger group age is in despair of their time ahead and how females have a passive ruminative response that leads to negative moods. This study, however, stated that Indonesia, on the other hand, showed that anxiety and stress affect males more due to the significant rate of unemployment and economic recession during the pandemic. That information alone correlates with the older age group and males as the head of a family.

The level of anxiety and stress affects younger age groups and high school students significantly. This data corresponds with other studies, such as in Canada that says how stress and anxiety affect adolescents.¹¹ The reason behind anxiety and stress that affects adolescents more was how younger age groups

experienced an impactful lifestyle change due to Covid-19 pandemic. Socially distancing for instance, which resonates in the decreasing amount of going outdoors or how much the younger age groups spent time on social media is closely related to the increasing amount of stress.

A study from China states how females experienced more severe stress and anxiety symptoms than males.¹² Because apparently, males showed better resilience to stress. That resilience correlated with later developing psychological symptoms such as stress and anxiety. The additional data from China matches this study's data of how women are more vulnerable to stress and anxiety symptoms. The stress may be related to the increase of social media users especially in adolescence population.¹³

Despite all the data that has been obtained, this study still has several limitations. One of them is how this study applied online surveys due to the pandemic that may affect how the respondents think about their private and objective results and how long it took, which affects the data's validity. This study also uses cross-sectional research methods that do not provide any 'cause and effect' data that explains which variable has occurred or explains variables associated with an economic condition, morbidities, medical history, and much more.

Conclusion

Depression, anxiety and stress quite common found in Indonesian during COVID-19 pandemic. Several sociodemographic factors were associated with depression, anxiety and stress among Indonesia. To conclude, sudden changes in lifestyle during the COVID-19 pandemic affected depression, anxiety, and stress in Indonesian people, especially regarding their gender, age group, and education.

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