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## **Anxiety of COVID-19 clients that are self isolation and its characteristics in Indonesia**

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**Abstract**---The research objective is to identify the anxiety characteristics of Covid-19 patients undergoing self-isolation in Indonesia. A cross-sectional study was conducted from January to July 2021 to assess the anxiety level of COVID-19 patients undergoing self-isolation. The population of this study is 100 people who have been exposed to the COVID-19 virus and are undergoing independent isolation spread from various regions in Indonesia. The main criteria for including participants/respondents in this study were patients who were exposed to the COVID-19 virus, were undergoing self-isolation, and were willing to become respondents by filling out a questionnaire via the WhatsApp link. The highest anxiety perception was on the feeling of anxiety item with a mean of 1.39, then the second was feeling of restlessness with a mean of 1.27, and sleep disturbances with a mean of 1.19. Age has a significant effect on the occurrence of anxiety in Covid patients who undergo self-isolation. Meanwhile, gender, education, occupation, exposure to information, and length of isolation did not significantly affect the incidence of anxiety in COVID-19 patients t.

**Keywords**---special needs, inclusive school, pandemic, education services.

## Introduction

The COVID-19 pandemic has lasted more than 18 months, which causes mortality and morbidity to continue to increase. There were 214,468,601 people who were confirmed to have COVID-19, while those who died were confirmed to be COVID-19, namely 4,470,969. Data were reported by WHO on August 24, 2021. The country with the most exposure was the United States of America with 38,158.49., India is second with 32,603,188 confirmed cases, while in Indonesia the number of confirmed cases of COVID-19 was 4,043,736 people, with a death toll of 130,182 data reported by WHO on August 23, 2021. People who have received the vaccine are 91,526.084 people (WHO, 2021). Currently, the spread of confirmed cases is very fast in Indonesia so Indonesia is a community transmission country. On August 19, 2021, Indonesia occupies the country with the highest confirmed cases in ASEAN countries (Kemenkes RI, 2021). In July 2021 the daily cases of Covid 19 were 31,189 cases after Brazil 62,505 cases and India 43,957(Aida, 2021). In Indonesia, the provinces that contributed the most cases were DKI Jakarta, West Java, and Central Java (Kemenkes RI, 2021). Facing a spike in the spread, the Indonesian Ministry of Health has made 3 T efforts, namely Testing, Tracing and Treatment, especially areas with high transmission, so that suspected and close contacts are immediately known, confirmed cases must be quarantined until the results are negative, so that they do not infect others (Kementrian Kesehatan, 2021).

High social interaction has caused the spread of confirmed cases of Covid 19 to spike, which is the delta variant (B.1.617) of Covid 19, such as those in India and Kudus. People who are exposed to Varian delta, people who have comorbidities, and the older the patient age, will worsen the patient's immune system, even people who have been exposed to Covid 19 will weaken the patient's immune system (Sheikh et al., 2021).

The death of COVID-19 patients can be caused by several factors, namely older age, hypertension, dyspnea, pneumonia, and pre-existing hypertension (Rozaliyani et al., 2020). Unsafe situations cause anxiety in individuals, and they face threats in their way (Reiss et al., 2020). The government has made policies for limiting social activities, prohibiting gatherings, implementing health protocols by using masks, washing hands with soap, and recommending that people suspected of/exposed to the virus undergo social isolation/self-isolation. Independent isolation is carried out in their respective homes. Individuals who undergo independent isolation can also be due to the absence of a place for treatment at the hospital due to a spike in cases that causes beds to be full, so the hospital prioritizes those with symptoms of illness with severe complaints that take precedence, while individuals who If you have mild symptoms, you are advised to self-isolate at home while still receiving treatment and monitoring services from basic health services/puskesmas. Individuals who undergo isolation will feel lonely and bored, which will cause mental disorders if it lasts long enough (Banerjee & Rai, 2020). Fear arises when they feel symptoms of illness and there are no health workers/facilities at home, even though puskesmas officers will come if there are patients whose symptoms get worse so they are picked up to health services and referred to the hospital. Research conducted in London England on adults that social isolation causes worse (7.8% of men and 17.3% of

women) on the components of anxiety and depression, there is a feeling of loneliness, lack of sleep, only a few reported improvements (1, 5% for depression and 4.9% for anxiety) (Robb et al., 2020).

Research that has been conducted in Indore, India stated that good knowledge about the Covid 19 pandemic found low anxiety scores (Reddy et al., 2020). Health workers, especially female nurses who work directly to treat Covid 19 patients, reported experiencing a psychological burden, research conducted in Wuhan China, of 1257 respondents, reported experiencing depression 50.4%, anxiety 50.5% (Lai et al., 2020). Work also affects a person's level of depression and anxiety, research has been conducted in 8 countries in Europe, that people who work other than health workers have higher levels of depression and anxiety (Hummel et al., 2021). Uncertainty when the pandemic will end causes stress for health workers, the coping strategy they take is protective measures by using personal protective equipment. Students and health professionals show increased levels of depression and anxiety and need support related to anxiety disorders (Hummel et al., 2021).

Isolation/quarantine at home can cause sleep disturbances, eating disorders, feeling lonely. During quarantine, students are at high risk of experiencing moderate levels of depression and anxiety which can result in serious mental illness (Hamaideh et al., 2021). Older adults undergoing isolation who have decreased dementia/dementia become more anxious, angry, stressed, anxious, and withdrawn during quarantine/during an outbreak, so they need practical and emotional support through family support and from Healthcare workers (WHO, 2020).

Control measures to prevent the spread of COVID-19 by means of social isolation can cause stress, loneliness, anxiety, and depression, this situation will result in mental health disorders, as many as 51, 576 children and adolescents experience mental health problems that were previously healthy (Loades et al., 2020). Research conducted by cross-sectional online survey using Zung's questionnaire on students in Malaysia, of 983 respondents, 20.4% experienced mild anxiety, 6.6% experienced moderate to severe anxiety, while 2.8% experienced severe anxiety. The causes of stressors are mostly financial, distance online learning constraints, the uncertainty of academic performance, and future career prospects (Sundarasan et al., 2020). Pandemic increases the problem of anxiety and mental disorders, people need solutions to overcome their mental health difficulties during the covid pandemic (Roy et al., 2020).

Anxiety is a warning of the dangers of somatic diseases, such as myocardial infarction/hypoglycemia in diabetic patients (Ströhle et al., 2018), Therefore it is necessary to prevent anxiety early by identifying characteristics associated with anxiety. The purpose of this study is to analyze the anxiety of Covid-19 clients who are undergoing independent isolation and their characteristics in Indonesia.

## **Materials and Methods**

This research was conducted in Indonesia, spread over several cities, districts/provinces. Indonesia is an archipelagic country. A cross-sectional study

was conducted from January to July 2021 to assess the anxiety level of COVID-19 patients undergoing self-isolation. The population of this study is 100 people who have been exposed to the COVID-19 virus and are currently undergoing self-isolation spread from various regions in Indonesia. The main criteria for including participants/respondents in this study were patients who were exposed to the covid-19 virus, were undergoing self-isolation, and were willing to become respondents by filling out a questionnaire that the researcher provided via the WhatsApp link.

To see the severity of anxiety disorders in Covid 19 patients who undergo self-isolation, the data collection uses a questionnaire. created electronically using a google form and the link is shared via WhatsApp(Akhtarul Islam et al., 2020). The first part contains socio-demographic characteristics, the second part contains the level of anxiety using the Hamilton Anxiety Rating Scale (HARS). Hamilton Anxiety Rating Scale (HARS) (Hamilton et al., 2008). There are 14 assessment items, namely, feelings of anxiety, feelings of anxiety, feelings of fear, sleep disturbances, intelligence disorders, feelings of depression, somatic symptoms, somatic symptoms (muscle), cardiovascular symptoms, respiratory symptoms, gastrointestinal symptoms, urogenital symptoms, autonomic symptoms, behavior in demand. Each item is worth 0, 1, 2, 3, or 4. A value of 0 indicates no visible symptoms, and a value of 4 indicates dominant and very disturbing symptoms. The severity of anxiety is determined by the number of scores obtained, if the total value is <14 then there is no anxiety, if the total value is 14-20 then the anxiety level is mild, if the total value is 21-27 then the anxiety level is moderate, if the total value is 28-41 then the anxiety level severe, and if the total score is 42-56 then the anxiety is very heavy.

Researchers contacted respondents via WhatsApp and provided information regarding the research objectives, provided a willingness form to become a respondent via a google form, after they agreed and filled out the informed consent, they filled out a questionnaire via the link provided by the researcher.

Data collection is carried out from January to July 2021

Definition of operational anxiety: anxiety is defined as mild if the total score is 14 to 20, moderate if the score is 21 to 27, severe if the score is 28 to 41, very severe if the score is 42 to 56.

Ethical clearance: Researchers get approval from each participant, Researchers get permission to carry out research from Giri Satria Nursing academy and the ethics committee. The researcher/author guarantees the confidentiality of each participant's data

#### Data Analysis

After the data has been collected, the researcher performs data analysis starting with coding in an Excel spreadsheet, after which the data is exported to the SPSS version 20 program. For descriptive statistics, absolute and relative frequencies, mean, standard deviation, coefficient of variation, and minimum and maximum values are used. . Quantitative data are presented as means  $\pm$  standard deviation (SD) while qualitative data is presented in terms of frequency and proportion. To evaluate the factors associated with anxiety, the analysis used was linear

regression. In this study, the limit of statistical significance was set at p-value < 0.05 (Gowda et al., 2019).

## Results

Table 1. Participant's Sociodemographic variables, medical status, symptom and self-isolation duration period

Variable		M±SD	n	%
Age		33.21±10.24	33.21±10.24	
Gender	Male		43	43
	Female		57	57
Employment	unemployment		25	25
	Employment		75	75
Education	Low		20	20
	High		80	80
Exposed to Information	No information		6	6
	Get information		94	94
Self Isolation Duration (day)		9.28 ±4.486		
Anxiety Classification	No Symptom		57	57
	Symptom		43	43

Note: M=Mean; SD=Standard Deviation

Table 1. Describes the sociodemographic data of the respondents. The average age of the respondents was  $33.21 \pm 10.24$  years, out of 100 participants: 43% were male, and 57% were female. Judging from work, 25% were unemployed, 75% employed, in terms of education, 20% respondents with low education and 80% of respondents with high education, judging from the exposure to information, 6% of respondents did not receive information, 94% of respondents were exposed to information. Self-isolation duration  $9.28 \pm 4.486$  days, respondents who have symptoms of anxiety are 43%, and respondents who do not have symptoms of anxiety are 57%.

Table 2. Bivariate Analysis

		Anxiety classification		Total	p-value
		no symptom	symptom		
age classification	20-30 years	33	18	51	0,317
	31-40 years	11	11	22	
	41-50 years	12	10	22	
	51-60 years	1	3	4	
	61-70 years	0	1	1	
<b>Total</b>		<b>57</b>	<b>43</b>	<b>100</b>	
gender	male	28	15	43	0,154
	female	29	28	57	
<b>Total</b>		<b>57</b>	<b>43</b>	<b>100</b>	
employment	unemployment	13	12	25	0,560
	employment	44	31	75	
<b>Total</b>		<b>57</b>	<b>43</b>	<b>100</b>	
education	low	10	10	20	0,480
	high	47	33	80	
<b>Total</b>		<b>57</b>	<b>43</b>	<b>100</b>	
isolation classification	0-7 days	16	20	36	0,057
	8-14 days	41	23	64	
	<b>Total</b>	<b>57</b>	<b>43</b>	<b>100</b>	

Table 2 presents the results of the bivariate analysis. Most respondents were aged 20-30 years and experienced symptoms of anxiety 18, while 33 respondents did not experience symptoms, while respondents aged 61-70 years only had 1 and experienced symptoms of anxiety. The results of the bivariate analysis showed that there was no significant relationship between age and the incidence of anxiety ( $p=0.317$ ). In terms of gender, there are more women, namely 57 people, and 28 people experiencing symptoms of anxiety, with a P-value = 0.15, which means there is no significant relationship between gender and the incidence of anxiety. In terms of work, more respondents work, namely 75 people, 31 respondents experience symptoms of anxiety, while 44 respondents do not experience symptoms of anxiety, with a P-value = 0.56 which means there is no significant relationship between respondents working with the incidence of anxiety. In terms of education, most respondents with higher education are 80,

33 of them experience symptoms of anxiety, while 47 respondents with higher education do not experience symptoms of anxiety, with a P-value = 0.48 which means there is no significant relationship between the level of education and the incidence of anxiety. While respondents underwent independent isolation at most 8-14 days, namely 64 respondents, 23 respondents experienced symptoms of anxiety, with a P-value = 0.05, which means that there is a significant relationship between the length of time undergoing independent isolation and the incidence of anxiety.

Table 3. Distribution of Hamilton Anxiety Rating Scale (HARS)  
Distribution of scores on respondents who underwent self-isolation due to covid 19 who experienced anxiety according to HARS\*

	Me an	Std. Deviation	Varian ce	Minim um	Maxim um
Anxious Feeling	1,3 9	1,042	1,086	0	3
Restless Feeling	1,2 7	1,085	1,176	0	4
Fear	0,9 3	0,856	0,733	0	3
Sleep disorder	1,1 9	1,031	1,062	0	4
Intelligence Disorder	1,0 1	0,984	0,968	0	4
Depression	1,1 1	0,927	0,859	0	3
Somatic Symptoms	0,9 3	0,963	0,927	0	4
Somatic Symptom (muscle)	0,7 3	0,756	0,571	0	3
Cardiovascular Symptoms	0,6 7	0,827	0,685	0	3
Respiratory Symptoms	1,1 2	1,216	1,478	0	4
Gastrointestinal Symptoms	0,8 4	0,897	0,804	0	3
Urogenital Symptoms	0,3 2	0,379	0,143	0	3
Autonomic Symptoms	1,1 1	1,001	1,003	0	4
Behavior	0,8 2	0,948	0,899	0	4

**HARS: Hamilton Anxiety Rating Scale \***

The distribution of scores on respondents who underwent self-isolation due to covid 19 who experienced anxiety according to the Hamilton Anxiety Rating Scale

(HARS)\* is presented in table 3. Perception of anxiety is expressed in 14 assessment items, regarding the average score, it can be seen in the table that the highest value is seen on the item feeling anxious is 1.39, which evaluates the respondent's perception of feeling anxious, and the second-highest is feeling restless, which is 1.27

Table 4. Linear Regression of Anxiety Scale

Variable	Anxiety classification				Sig .	95,0% Confidence Interval for B	
	B	Std. Error	Beta	t		Lower Bound	Upper Bound
age	,011	,005	,235	2,211	,029*	,001	,022
gender	,193	,107	,193	1,798	,075	-,020	,405
employment	- ,103	,117	- ,091	-,887	,378	-,335	,128
education	- ,109	,140	- ,088	-,777	,439	-,386	,169
Exposed to Information	,109	,223	,052	,489	,626	-,333	,551
Self Isolation Duration	- ,010	,011	- ,089	-,871	,386	-,033	,013

Note.\*  $p < 0.05$ . CI = Confidence interval.

Linear regression was used to examine factors related to anxiety. The results are presented in Table 4. Age variables associated with anxiety ( $B = 0.011$ ,  $\beta = 0.235$ ,  $t = 2.211$ ,  $p\text{-value} = 0.029$ ).  $P\text{-value} = 0.029 < 0.05$  which means age has a significant effect on the occurrence of anxiety in Covid patients who are undergoing independent isolation. Meanwhile, gender, education, occupation, exposure to information, and length of isolation did not significantly affect the incidence of anxiety in COVID-19 patients

## Discussion

**Age:** The results showed that the average age of the respondents was 33.21 years. This age is included in the category of productive age. Where respondents have economic responsibilities to meet the needs of their families, fear of financial problems, such as previous research which said that single people were afraid of financial problems (Skalski et al., 2021). The results of research conducted in Kuwait stated that 53.7 % and 59.6% of respondents experienced anxiety and depression. Age and marital status are significantly related to anxiety Alsharji, 2020. This study contradicts previous studies which said that age, gender, and

education did not show a statistically significant correlation with the coronavirus anxiety scale (Skalski et al., 2021).

**Gender.** Seen from gender, female respondents who experience anxiety symptoms are more female. This is consistent with a study conducted by Santamaria on anxiety during a pandemic which said that women experienced more stress symptoms than men (Santamaría et al., 2021). This study is in line with previous research which said that gender, age, and marital status was significantly associated with depression ( $P < 0.05$ ) (Alsharji, 2020). The Covid 19 outbreak has a greater psychological impact on married women who have a bachelor's degree, physical activity is important to reduce anxiety and depression during the epidemic (Alsharji, 2020). Previous research conducted by Bigalke stated that women reported having higher anxiety when compared to men ( $p = 0.001$ ) (Bigalke et al., 2020).

**Employment.** In terms of employment status, most of the respondents work as health workers. These results support previous research. Previous research said that some respondents who worked as health workers were found to suffer from anxiety and depression by combining personal variables and working conditions as predictors (Elamin et al., 2020). In addition, people who work other than health workers also have higher anxiety (Hummel et al., 2021).

**Education.** Based on the level of education, respondents are in the category of higher education. These results are consistent with previous studies which stated that education, gender, age, and marital status were significantly associated with anxiety and depression ( $P < 0.05$ ). (Alsharji, 2020).

**Information Display.** In this study, almost all respondents received information, but respondents who experienced anxiety were still high, namely, 43 respondents experienced anxiety, this was because the information received was incorrect/incorrect. Since the Covid-19 pandemic, many anomalies have occurred, gaps in public knowledge (gaps of public knowledge), and this is allegedly caused by insufficient information (inequality of public information) which could be due to the process of transmitting information that is not true and appropriate (Nasucha & Moenawar, 2020).

**Long Isolation.** Based on the length of isolation, in this study, the patient underwent social isolation for more than 8 days, so this incident increased the incidence of anxiety in these respondents, due to feelings of loneliness, fear of financial problems, sleep disturbances. These results are in line with research conducted by Robb in London supporting these results, that social isolation causes feelings of loneliness, difficulty sleeping, causes an increase in the incidence of anxiety and depression (Robb et al., 2020). Another similar study is that the feeling of loneliness and boredom that lasts long enough in respondents can cause mental disorders (Banerjee & Rai, 2020).

## HARS

The results of the anxiety study of individuals undergoing self-isolation with the HARS questionnaire showed that the anxiety score of anxious feelings got the

highest score in this study. Based on in-depth questions about how anxious, do they have bad feelings, are they afraid of their thoughts, are easily offended, most answered not anxious, with a score of 1.39. The results of this study are in line with research conducted on students that the COVID-19 pandemic and the lockdown measures increased stress and anxiety related to worrying about their health and those of their loved ones 91%, difficulty concentrating 89%, disturbed sleep patterns 86%, decreased social interaction. 86%, academic performance concerns 82% (Son et al., 2020) .

Simpton Restlessness/tension has the second-highest score after feelings of anxiety. This is caused by individuals feeling tense, lethargic, unable to rest quietly, easily startled, crying easily, shaking, and restless during the period of self-isolation in their respective homes. Individuals feel tense, uneasy, easily startled, shaking, and anxious because they are worried that their health will decline drastically as reported in the media which provides a lot of information about the deaths of patients affected by COVID-19. Patient tension also increased due to information that the hospital was no longer accepting patients because it was full of patients. The results of this study are in line with previous studies of participants experiencing tension/worry and appetite during covid-19 (Skalski et al., 2021). Single people feel worried and afraid of financial problems due to covid-19 (Skalski et al., 2021).

The third highest score from this study was sleep disturbance with a mean score of 1.19. Of the several questions asked, the patient said he could not sleep well, followed by frequent awakenings at night and waking up feeling lethargic. These results are consistent with a previous study conducted by Bigalke which stated that participants who reported decreased sleep quality in participants undergoing isolation due to Covid-19 reported higher levels of anxiety ( $45 \pm 1$  au) than those who felt no change ( $36 \pm 2$  au). au,  $p = 0.002$ ). (Bigalke et al., 2020)

The fourth highest score from this study was respiratory symptoms with a mean score of 1.12. From several questions asked to respondents regarding respiratory complaints, the patient said that he often breathed, often felt short of breath, and some said that there was a feeling of suffocation, a feeling of pressure/tightness in the chest, such as research that had been done previously by Perna which said that there was shortness of breath, a sensation of choking or choking, chest pain or discomfort, and fear of death due to COVID-19 disease (Perna & Caldirola, 2021). There is a relationship between respiratory symptoms and psychological status, the higher the respiratory symptoms, the more psychological stress (anxiety and depression) (Leander et al., 2014).

Urogenital Symptoms had the lowest score with an average score of 0.32. Of the several questions related to urogenital disorders, most respondents said that they lost weight, followed by frequent urination, could not stand urine, became cold (frigid), weakened erections, had menstruation several times a month and some had very short menstrual cycles, shorter than usual, there is also a prolonged menstrual period. The results of this study are in line with previous research conducted by Mohimani which said that there was a positive correlation between the severity of anxiety symptoms and the severity of symptoms of Overactive Bladder/incontinence with a spam correlation coefficient of 0.29 to 0.47,  $p < 0.05$

(Hosein Mohimani, Alexey Gurevich, Alla Mikheenko, Neha Garg, Louis-Felix Nothias, Akihiro Ninomiya, Kentaro Takada, Pieter C. Dorrestein<sup>3</sup>, 2017).

The results of this study were as many as 43% of respondents experienced mild to severe anxiety. Crude mean analysis showed that the highest rating of anxiety was feeling anxious 1.39, followed by feeling restless, 1.27, the third feeling was feeling disturbed by sleep 1.19 While the lowest score is Urogenital symptoms with an average score of 0.32. The results of the regression test showed that the patient's age was related to the anxiety of the patient undergoing independent isolation. This is almost the same as previous research by Alsharji, which said that age was significantly related to anxiety, adults experienced a lot of anxiety and depression, there was a feeling of loneliness, lack of sleep (Robb et al., 2020), which described the respondents' anxiety the most. high on the items feeling anxious / feeling anxious and feeling restless. This finding explains that they feel anxiety due to fear of their mind, anxiety and a bad feeling about the emergence of symptoms of illness while undergoing independent isolation and being away from health workers, fear of financial problems, fear of career / academic ruin.

This study has several limitations. Participants in this study were recruited through social networks / WhatsApp, with the number of participants not reflecting the Indonesian population in general. However, the score explains anxiety and its relationship to self-isolation in patients exposed to the COVID-19 virus in Wonogiri, Indonesia.

## **Conclusion**

The highest perception of anxiety on the item feeling anxious with a mean of 1.39, then the second is feeling of restlessness with a mean of 1.27, and sleep disturbances with a mean of 1.19. Age has a significant effect on the occurrence of anxiety in Covid patients who undergo self-isolation. Meanwhile, gender, education, occupation, exposure to information, and length of isolation did not significantly affect the incidence of anxiety in COVID-19 patients.

Furthermore, health service providers improve their services to patients exposed to covid 19 who are undergoing self-isolation by providing a quick response to all patient complaints, for example immediately providing an explanation for the complaint/something that happened to the patient, giving medicine/carrying and picking up patients who have a fever. severe complaints, so that the patient feels safe and comfortable even though he is undergoing isolation at home, that way the patient will not feel anxious and afraid if at any time the symptoms of his illness get worse because he feels that he has been given services by health workers quickly. In addition, family/neighbors also need to provide support by maintaining using existing technology, social networks/social media such as Whatsapp, Facebook, Instagram, as well as support in the form of material in the form of food that must be consumed every day so that respondents feel calm because their needs are fulfilled and feel comfortable, there is real support from family/neighbors.

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### Conflict of interest

The authors have no conflict of interest to declare

### Authors contributions

M conceived and designed the study, conducted research, and provided research materials. DS and JGC collected, organised, analysed the data statistically, and submitted the paper. DS and JGC collected and interpreted data. NYR and SN wrote the introduction and collected data. NYR and SN wrote results. All authors have critically reviewed and approved the final draft and are responsible for the content and similarity index of the manuscript.

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