

Correlation of Anxiety Level with Clinical Description in Covid-19 Patients Using Coronavirus Anxiety Scale at H. Adam Malik RSUP

Primidia Riski Susanti¹, Dadik Wahyu Wijaya², Tasrif Hamdi²

¹ Masters in Clinical Medicine, USU Medical Faculty, H. Adam Malik Hospital Medan

² Department of Anesthesiology and Intensive Therapy of USU Medical Faculty, H. Adam Malik Hospital, Medan

Abstract:- Background: Covid-19 is a respiratory infection that is contagious because the SARS-CoV-2 virus that has been known to spread widely in more than 190 countries and other territories. This had an impact on various aspects of life including psychological, eating disorders, and insomnia. However, the data on clinical features and level of anxiety in Covid-19 patients are important to form the basis for further interventions as effort to accelerate the healing of Covid-19 patients.

Objective: To determine the relationship between anxiety levels and clinical features in COVID-19 patients using the Coronavirus Anxiety Scale at H. Adam Malik Hospital.

Methods: This study used a prospective analytical design with sample selection based on inclusion and exclusion criteria. The assessment of anxiety used the Coronavirus Anxiety Scale and the quality of sleep was assessed using the Pittsburgh Sleep Quality Index with data analysis using Spearman non-parametric correlation test.

Results : Characteristics of the sample had a mean age of 43 ± 14.90 years. Based on gender, there were 8 men (53.3%) and 7 women (46.7). Based on the systolic, the mean of the sample was 123.20 ± 5.83 , the mean diastolic was 82 ± 7.45 , the mean pulse was 100.33 ± 18.79 . The incidence of anxiety using the Coronavirus Anxiety Scale was found to be anxious 11 people (73.3%) and not anxious 4 (26%). Poor sleep quality for 13 people (86.7%) and good 2 (13.3%). The most common clinical symptoms found in patients experiencing anxiety with a diagnosis of covid 19 were eating and sleeping disorders by 11 people (73%).

Conclusion: There is a significant relationship between anxiety and clinical features in COVID-19 patients at H.Adam Malik Hospital.

Keywords: Anxiety Level, Covid-19, Coronavirus Anxiety Scale, Pittsburgh Sleep Quality Index.

I. INTRODUCTION

The first COVID-19 reported in Indonesia on March 2, 2020 was two cases. The COVID-19 mortality rate in Indonesia is 8.9%, this figure is the highest in Southeast Asia (Casella et al., 2021). Based on data from the National Covid-19 Handling Committee in Indonesia as of December April 23, 2021, there were 2,284,084 patients who tested positive, recovered 1,980,097, died 60,582. Data from the Medan City Central Health Office as of April 23, 2021, there

were 13,882 patients who were declared cured, 740 patients were treated and 492 people died (Kemenkes, 2020; Casella et al., 2021).

The epidemiology of Covid-19 includes agent, host and environment. The agent of Covid-19 is 2019 novel Coronavirus (2019-nCov), Severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2), the disease is called Corona virus diseases 2019 (Covid-19) (WHO, 2020). The host of this disease is humans, especially vulnerable or at-risk groups and their immunity is low. Host characteristics can be influenced by various factors such as nutritional status and nutritional status immunity. This disease environment is an environment such as a physical environment with poor environmental sanitation, a biological environment such as population density, virus virulence, socio-cultural environment such as behavior, economic environment, and politics (Hidayani, 2020). Risk factors are also divided into non-modifiable risk factors such as age, gender, race, ethnicity, genetics, and modifiable risk factors such as unhealthy behavior that causes comorbid diseases such as hypertension, diabetes, cardiovascular disease, and lung disease. Hidayani, 2020). Certain underlying conditions that can aggravate the general condition in COVID-19 patients are hypertension and lipid metabolism disorders which are the most common causes, while obesity, diabetes, and anxiety disorders are the strongest risk factors that can aggravate the condition in COVID-19 patients (Kompaniyets et al. , 2021).

Anxiety is the emotional condition and experience of individual subjectivity to non-specific objects in response to danger that allows individuals to take action to deal with threats. The clinical picture is usually characterized by feeling confused, worried about the situation at hand, difficulty concentrating, looking restless, tense and having trouble sleeping accompanied by an increased respiratory rate and pulse, pale face, palpitations, and a feeling of helplessness. These clinical conditions can be caused by acute or chronic progressive disease, the longer length of hospital stay, and the unclear prognosis of the disease. This triggers the emergence of physical and psychological disorders if not treated or controlled immediately (Casella et al., 2021). Covid-19 patient anxiety is caused by patient social restrictions on social contacts, endure severe physical pain, where general depression is also often experienced by patients due to external anxiety, namely thinking about family conditions at home, news related to the number of deaths due to Covid-19 which is increasing every day also has an impact on the

patient's psychological decline (Cascella et al., 2021). In several journals, it is also stated that the general response to being affected by Covid-19 is the fear of dying, being exiled, losing their livelihood, being separated, bored, lonely, helpless (Cascella et al., 2021). In addition, it was also mentioned that Covid-19 can increase anxiety due to acute disease processes, quarantine, depression, post-traumatic syndrome (Fardin, 2020; Kompaniyets et al., 2021). Inpatients generally have higher levels of anxiety and somatization symptoms compared to patients who are self-isolating outside the hospital (Cascella et al., 2021).

The link between SARS-CoV-2 infection and mental health outcomes is the involvement of neuroimmune networks. Dissolved cytokines that reach the brain, or their corresponding local alteration levels can affect the synthesis, release and reuptake of several neurotransmitters, including monoamines, such as dopamine, norepinephrine, and serotonin (Luo et al., 2021). Alterations in neurotransmitter metabolism are implicated in the pathophysiology of various psychiatric disorders, such as depression, anxiety, PTSD, and obsessive-compulsive disorder (Luo et al., 2021). As changes in cytokine levels can lead to disturbances in neurotransmitter metabolism, triggering behavioral deficits, we hypothesized that the immune system could be placed as a link between SARS-CoV or SARS-CoV-2 infection and mental health disorders (Raony et al., 2020).

A study conducted in Iran on confirmed COVID-19 patients stated that anxiety can affect the improvement of serum cortisol that affects patient outcomes (Ramezani et al., 2020). Hospital Anxiety and Depression Scale (HADS) was used as a parameter to find the relationship between cortisol, depression, and anxiety. And the results of the study showed that cortisol levels were higher in Covid-19 patients who eventually died compared to patients who survived and recovered (Ramezani et al., 2020).

The immune system of confirmed Covid-19 patients is a major factor in the healing process. During the COVID-19 epidemic, many people (including adolescents and young adults) have symptoms of anxiety and depression that exacerbate insomnia symptoms (Luo et al., 2021). In addition, prolonged insomnia can also lead to increased anxiety and depression, so it is important to pay attention to psychological problems and symptoms of insomnia during the COVID-19 epidemic (Zhang et al., 2020). Where the patient was hit by an acute panic due to lack of rest and decreased sleep quality of the patient. So the author is interested in knowing more about the relationship between anxiety level and clinical picture in COVID-19 patients at H. Adam Malik Hospital

II. RESEARCH METHODOLOGY

This study uses a prospective analytical research method, the relationship between anxiety levels and clinical features in COVID-19 patients at H. Adam Malik Hospital . This research was conducted in the isolation room of the Haji Adam Malik General Hospital Medan (RSUP HAM). The research was conducted after the issuance of ethical clearance and research permit from the ethics committee of the USU HAM-FK Hospital. Sampling was carried out in November 2021 – December 2021

A. Research Population and Sample

The study population was all patients diagnosed with mild moderate COVID-19. The sample of this research is the research population that meets the inclusion and exclusion criteria.

➤ Inclusion Criteria

The inclusion criteria in this study were adult patients aged 18-65 years, treated in an isolation room at H. Adam Malik Hospital Medan, the patient was fully conscious (compos mentis), and signed an informed consent by the patient.

➤ Exclusion Criteria

Exclusion criteria were refusing to be included in the study sample, a history of psychiatric illness, and patients with communication disorders, such as decreased consciousness and/or intubation.

B. Procedure

The method of work carried out in this study is as follows , namely after obtaining informed consent and being approved by the research ethics committee in the health sector, Faculty of Medicine, University of North Sumatra / Haji Adam Malik General Hospital Medan, sampling taken according to the inclusion and exclusion criteria. All patients with COVID-19 are adult patients treated in the Isolation Room with a diagnosis of Covid-19 at H. Adam Malik Hospital, Medan. Then the patient will be assessed for anxiety using the coronavirus Anxiety scale and sleep quality will be assessed using the Pittsburgh Sleep Quality Index . The clinical picture and hemodynamics were recorded . The collected data was processed and analyzed statistically to assess the data with normal distribution using the Shapiro Wilk test, then the Pearson correlation test was carried out because the data were normally distributed.

C. Data analysis

After the required data has been collected, it will then be re-checked for completeness before being tabulated and processed. The next step is the coding process to make it easier to tabulate. The collected data was analyzed using a computer program . Numerical data is shown in mean \pm SD (standard deviation), while categorical data is shown in number (percentage). Anxiety assessment using the Coronavirus Anxiety Scale and sleep quality assessed using the Pittsburgh Sleep Quality Index using the Pearson correlation test because the data are normally distributed. Confidence interval with p value < 0.05 was considered

significant.

III. RESULTS

Study this use method study Analytic prospective , correlation between anxiety levels and clinical features in COVID-19 patients 19 at the hospital H Adam Malik .

Table 4. 1 Sample Characteristics

Characteristics	Total %	P value
Age	43 ± 13.66	0.9
Gender, n (%)		
Male	9 (45)	0.01
Woman	11 (55)	
Term, n (%)		
Aceh	2 (10)	0.001
Java	10 (50)	
	8 (40)	
Religion, n(%)		
Islam	10 (50)	0.001
Christian	10 (50)	
systolic	128.35 ± 11.96	0.2
diastolic	82 ± 6.15	0.4
Pulse	100.90 ± 11.24	0.22
BMI	24.30 ± 6.20	0.16

Based on Table. 4.1 shows that the distribution of the sample in this study has a mean age of 43 ± 13.66 years, p = 0.9 can be concluded that the data is normally distributed. Based on gender , 11 people (55%) were found in women and 9 people (45%). Based on religion, Islam and Christianity were found to be comparable in the amount of 10 people (50%). Based on ethnicity, it was found that the most Javanese were 10 people (50%) and at least 2 Acehnese (10%) with a p value < 0.05, so based on gender, religion and ethnicity the sample was said to be not normally distributed.

Based on the systolic, the sample mean was 128.35 ± 11.96. Based on the diastolic mean of 82 ± 6.15. Based on the mean pulse of 100.90 ± 11.24. Based on the sample mean BMI of 24.30 ± 6.20 with p value > 0.05 , it can be said that the characteristics of the systolic, diastolic and pulse samples were normally distributed.

Table 4.2 Characteristics of Laboratory Samples

Characteristics	Total %	P value
HB	13.31 ± 1.59	0.87
HT	39.73 ± 6.70	0.62
Leukocytes	17606 ± 10854	0.33
Platelets	234295 ± 105375	0.72
Na	136.7 ± 8.28	0.46
K	3.99 ± 0.78	0.86
Cl	102.25 ± 6.63	0.16
BUN	32.30 ± 19.01	0.23
urea	68.70 ± 41.38	0.07
Creatinine	1.70 ± 1.85	0.98
D dimer	301.70 ± 52.97	0.78
CRP	1.05 ± 0.45	0.65

*Sapiro Wilk

Based on Table. 4.2 shows that the distribution of samples in this study has a mean Hb 13.31 ± 1.59, HT 39.73 ± 6.70, Leukocytes 17606 ± 10854, Platelets 234295 ± 105375, Na 136.7 ± 8.28, K 3.99 ± 0.78, CL 102.25 ± 6.63, BUN 32.30 ± 19.0, Urea 68.70 ± 41.38, creatinine 1.70 ± 1.85 , D dimer 301.70 ± 52.97, CRP 1.05 ± 0.45 with p value > 0.05, the sample characteristics are based on HB, HT, Leukocytes, platelets, Na, K, CL, BUN, Urea, Creatinine normally distributed.

Table 4. 3 Anxiety Incidence Rates using the Coronavirus Anxiety Scale

Worry	Total n (%)	P Value
Worried	14 (70)	0.104
No Worry	6 (30)	

*Sapiro Wilk

Based on table 4.3 the incidence of anxiety using the *Coronavirus Anxiety Scale* , it was found that the incidence of anxiety was 14 people (70%) and not anxious 6 (30 %) with a p value > 0.05, statistically, the incidence of anxiety was normally distributed.

Table 4. 4 Sleep Quality Scores using the Pittsburgh Sleep Quality Index

Sleep Quality	Total n (%)	P Value
Well	4 (20)	0.42
Bad	16 (80)	

*Sapiro Wilk

Based on table 4.4 sleep quality figures using the *Pittsburgh Sleep Quality Index Scale* , 16 (80%) and 4 (20%) poor sleep quality were obtained with a p value of 0.42 > 0.05, statistically, the incidence of anxiety had a normal distribution.

Table 4. 5 Sleep and eating disorders in anxious patients

Sleep and Eating Disorders	Total n, (%)	P Value
Sleep Disorder	3 (15)	0.66
Eating Disorder	2 (10)	
Eating and Sleeping Disorders	15 (75)	

*Sapiro Wilk

Based on table 4.5 the most common clinical symptoms found in patients who experience anxiety with a diagnosis of covid 19 are eating and sleeping disorders by 15 people (75%), sleep disorders 3 (15%), eating disorders 2 (10%) with a p value of 0.66 > 0.05 then statistically the clinical symptoms were normally distributed.

IV. DISCUSSION

The incidence of anxiety using the *Coronavirus Anxiety Scale* in this study found the incidence of anxiety by 14 people (70%) and not anxious 6 (30%) . This is in line with previous research where most of the respondents had an anxiety level with a moderate anxiety category of 40% (Hikmah N, 2020). Based on the results of research conducted

on 68 respondents, it showed that most (more than 50 percent) patients in the quarantine house experienced moderate anxiety, namely 52.94% in the treatment group and 76.47% in the control group. Moderate anxiety experienced by COVID-19 patients at the Quarantine House mentioned above is characterized by feelings of anxiety, feeling tense, feeling afraid and having sleep disturbances. (Kurnianingsih MF, 2021)

A study conducted by Mazza, et.al in 2020 a significant proportion of COVID-19 survivors rated themselves in the psychopathological range: 28% for Post Traumatic Stress Disorder (PTSD), 31% for depression, 42% for anxiety, 20 % for Obsessive-Compulsive (OC) symptoms, and 40% for insomnia. (Mazza, 2020 and Amirullah, 2020). Mental-emotional disorder or psychological distress is a condition that indicates the individual experiences an emotional change that can develop into a continuing pathological state, so it is necessary to anticipate so that the mental health of the community is maintained. (Nurjannah, 2020).

The results of this other study showed emotional mental disorders in clients of the Covid 19 pandemic in quarantine homes as many as 10 people (33.3%) consisting of 5 female respondents and 5 male respondents. There needs to be a handling approach to mental problems for Covid 19 clients who live in quarantine homes. (Nurjannah S, 2020). Most of the respondents experienced anxiety on a heavy scale, namely as many as 14 respondents (47%). Most of the respondents with long quarantine days are susceptible to 7-14 days (moderate), namely 14 respondents (47%). There is a relationship between the level of anxiety with the length of hospitalization. (Azzaril MF, 2019).

In this study, the quality of sleep found by using the *Pittsburgh Sleep Quality Index Scale*, it was found that the poor sleep quality was 16 people (80%) and 4 people (20%) good . This is in line with other research which shows that in 30 respondents, many respondents experienced anxiety due to sleep disturbances from the results of the study by liking to wake up at night and not sleeping well. And easy to experience tension so easily lethargic and can not rest in peace. Anxiety or *Anxiety* can trigger an increase in blood norepinephrine levels through the sympathetic stimulus system. This condition can cause disturbances in stage IV NREM sleep patterns and REM sleep and sleep disturbances due to frequent awakenings. Sleep disturbances involve problems with the quality, timing and amount of sleep, which can lead to problems with bodily functions and disturbances during the day. Difficulty sleeping is related to physical and emotional problems, and can contribute to or cause a person's mental condition and can also be a symptom of other mental problems. For example, caused by psychological factors such as mood disorders, anxiety and psychotic disorders (akizofrenia) can also cause insomnia.

The COVID-19 pandemic does not only have an impact on physical health, but also has an impact on mental health, which will also affect people's sleep quality, even causing insomnia or worsening existing insomnia symptoms. Prolonged fear and anxiety of being infected with SARS-

CoV-2 affects sleep quality and sleep time for COVID-19 patients. (Haryanti DY, 2020)

In this study, it was found that the mean systolic blood pressure of patients with COVID-19 was 133.64 ± 9.92 and the average diastolic blood pressure was 82.14 ± 6.99 . Based on the pulse, the mean pulse is 115.7 ± 12.95 . In addition, 15 people (75%) . This is in line with previous research where the most common complaints were psychological complaints, namely feeling anxious, tense/worried (40%), followed by complaints of neglected daily activities/tasks (37%), loss of appetite (30%) and not sleeping well (30%). (Nurjannah, 2020)

At the present time feelings of anxiety, worrying excessively is still a problem in society. Generally, worry and anxiety as well as anxiety are symptoms of someone experiencing mental illness which is considered a mere mental disorder, but excessive feelings of anxiety can also attack our organs. Covid patients who have the potential to experience a psychological disorder in the form of anxiety, fear. The psychological impact on this patient is due to the patient having excessive anxiety, especially in his physical condition and social patterns and interactions that are completely restricted in order to suppress the spread of the virus. In general, hospitalized patients have higher levels of anxiety and somatization symptoms. Symptoms of anxiety disorders that can be seen with the naked eye on a person's physical are in the form of pain all over his body. The pain felt ranging from pain in the joints to migraines. This can be clearly seen when the patient is unconsciously pressing or closing the jaw firmly, clenching the fingers, or shifting ineffective body positions. These various things can determine the cause of muscle tension in people with anxiety disorders. A person's physical condition can indicate the level of anxiety he feels. Changes in respiratory rate, increased pulse rate and changes in blood pressure. (Azzaril MF, 2021)

a study conducted by Wang, Meeker et.al in 2019, Covid patients in the ICU with trauma-related symptoms and depression (OR 16.66, 95% CI 2.89–96.00) and trauma-related symptoms only (OR 4.59, 95% CI 1.11–18.88) had a higher likelihood of sleep disturbance, trauma-related symptoms and trauma-related symptoms plus moderate to severe depressive symptoms were associated with a higher likelihood of sleep disturbance. (Wang, Meeker 2019 and Amirullah 2020)

V. CONCLUSIONS

There is a significant relationship between anxiety and clinical features in COVID-19 patients at H. Adam Malik Hospital. Anxiety levels in COVID-19 patients at H.Adam Malik Hospital, there were 11 anxiety events using the *Coronavirus Anxiety Scale* . Sleep Quality in COVID-19 patients at H.Adam Malik Hospital found poor sleep quality for 13 people (86.7%) and good 2 (13.3%) using the *Pittsburgh Sleep Quality Index Scale*

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- [5]. ¹Department of Biological Science at College of Natural Science, Sungkyunkwan University, Suwon, South Korea
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