SUPPORT SYSTEM AND QUALITY OF LIFE OF POST-COVID-19 PATIENTS IN ENDE REGENCY, EAST NUSA TENGGARA PROVINCE

Syaputra Artama\(^2\)*, Irfan\(^1\), Aris Wawomeo\(^2\)

\(^1\)Nursing Study Program, Poltekkes Kemenkes Kupang, Indonesia
\(^2\)Nursing D III Study Program of Ende, Poltekkes Kemenkes Kupang, Indonesia

*syaputraartama@gmail.com

Abstract
The COVID-19 pandemic has caused a change in habits for patients after COVID-19 in Indonesia. Social stigma and negative perceptions of the COVID-19 disease can also have an impact on post-COVID-19 patients. Both informal and formal support systems are critical to the successful care and recovery of patients post COVID-19. This study aims to determine the support system on the quality of life in patients with post-COVID-19 in Ende Regency. The type of research used is analytical. The results of the study found that there was a significant relationship between the support system and the quality of life of patients after COVID-19 (\(p = 0.001\)) with a correlation value of \(r = 0.567\). The conclusion that the support system with the quality of life of patients post-COVID-19 has a positive correlation. The better the support system provided and received by patients after COVID-19, the better their quality of life will be.

Keywords: support system, quality of life, post-COVID-19 patients

1. Introduction
There are currently around 157 million cases of COVID-19 worldwide from 223 countries today, including about 18 million active cases (Djalante et al., 2020; Singhal, 2020). Pusdatin of the Indonesian Ministry of Health reported that as of May 9, 2021, the number of COVID-19 patients was 1,711,684 cases, 1,568,277 people recovered and 47,012 people died (Pusat data dan Informasi Kementrian Kesehatan, 2021). The number of COVID-19 patients in East Nusa Tenggara Province on May 09, 2021 was 15502 cases, 13,977 people recovered and 427 people died.
on COVID-19 patients in one of the regencies of East Nusa Tenggara Province, namely Ende Regency, on March 22, 2021, the number of positive cases of COVID-19 was 661 cases and on May 09, 2021 it has increased the number of cases to 827 cases, 747 people recovered and 12 people died (Pusat data dan Informasi Kementrian kesehatan, 2021).

Corona virus is transmitted through droplets or saliva from confirmed COVID-19 patients to others and results in symptoms of dry cough, fever, shortness of breath, loss of sense of smell, loss of sense of taste, nausea, vomiting, weakness, headache, red eyes, redness in the skin, and diarrhea (Djalante et al., 2020; Singhal, 2020). Patients undergoing quarantine/self-isolation can feel stress, loneliness, causing psychosocial stress, anxiety and exacerbating physical and mental illnesses (Liu et al., 2020; Pusat data dan Informasi Kementrian Kesehatan, 2021).

Social stigma and negative perceptions can also occur to patients after COVID-19 because some negative perceptions of society consider that patients who recover from COVID-19 can still carry the virus so that sometimes they are shunned and excluded from society (Giebel et al., 2021; Rosyanti & Hadi, 2020). Many post-COVID-19 patients with comorbid conditions also have to struggle with getting such treatment, affecting their quality of life. This influence will have an impact not only on aspects of physical health, but also mental health and social relationships of patients (Wenham et al., 2020).

Support system is support received in the form of material, information or verbal and nonverbal advice that is indispensable for the success of patient care (Giebel et al., 2021; Rosyanti & Hadi, 2020). Many studies report that a good support system has a positive impact on the immune system, neuroendocrine, and cardiovascular systems. People with low support are at high risk of death compared to high support, increased likelihood of survival and a person's better quality of life (Xu et al., 2020; Yang et al., 2020). A good support system certainly has a positive effect on the physical and psychological recovery process of patients with post-COVID-19, especially in patients with comorbidities.

However, the current condition in Ende district is that there are still many family members who do not understand the importance of a support system for patients after COVID-19. Our research is here to answer these gaps by analyzing the pattern of the support system and then making improvements in the second year through direct intervention in the patient's family. The purpose of this study is to determine the determinants of support system and quality of life in patients with post-COVID-19 in Ende Regency, East Nusa Tenggara Province".

2. Materials and Methods
The research method used is analytical observational using a cross-sectional study design where all subjects and research variables are observed and measured at the same time (point time approach). The study was conducted in the four highest sub-districts with COVID-19 in Ende Regency, namely Ende Tengah, Ende Timur, Ende Utara and Ende Selatan Districts. Respondents are post-COVID-19 sufferers living in the Subdistrict area. The population in this study was all patients with post-COVID-19 in Ende District.

The sampling method uses cluster random sampling with a total sampling of 110 respondents. Data collection through interviews using demographical data questionnaires, support system questionnaires and those used to measure quality of life, namely WHOQOL-BREF. As well as other data obtained through direct measurement of respondents' health status. Data analysis using the SPSS application. Bivariate analysis using the Spearman test (value α = 0.05) because the distribution of the data obtained was abnormal.

3. Results and Discussion
Based on data obtained from February 23 to April 30, 2022, 110 respondents aged between 15-76 years were obtained. The respondents selected were patients who had been diagnosed with COVID-19 disease in accordance with the inclusion criteria. The measuring instruments used are the support system questionnaire and the quality of life of
respondents. After the data is collected, researchers carry out data grouping and analysis. The results of the study can be described as follows;

a. Univariate Analysis

The results of the univariate analysis described the distribution of respondents according to age, type of elamin, marital status, level of education, occupation, symptoms when suffering from COVID-19, comorbid history, support system, quality of life.

Table 1. Distribution of Respondents by Gender, Marital Status, Education Level, Occupation, Symptoms When Suffering from COVID-19 and Comorbid History in Ende Regency, East Nusa Tenggara Province (n=110)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Category</th>
<th>Sum</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Man</td>
<td>37</td>
<td>33.6</td>
</tr>
<tr>
<td></td>
<td>Woman</td>
<td>73</td>
<td>66.4</td>
</tr>
<tr>
<td>Marital Status</td>
<td>Marry</td>
<td>57</td>
<td>51.8</td>
</tr>
<tr>
<td></td>
<td>Not married yet</td>
<td>48</td>
<td>43.6</td>
</tr>
<tr>
<td></td>
<td>Widow/Widower</td>
<td>5</td>
<td>4.5</td>
</tr>
<tr>
<td>Education Level</td>
<td>Elementary/equivalent</td>
<td>12</td>
<td>10.9</td>
</tr>
<tr>
<td></td>
<td>JSS/equivalent</td>
<td>6</td>
<td>5.5</td>
</tr>
<tr>
<td></td>
<td>High school/equivalent</td>
<td>29</td>
<td>26.4</td>
</tr>
<tr>
<td></td>
<td>College</td>
<td>63</td>
<td>57.3</td>
</tr>
<tr>
<td>Work</td>
<td>PNS/TNI/Polri</td>
<td>19</td>
<td>17.3</td>
</tr>
<tr>
<td></td>
<td>Private Employees</td>
<td>18</td>
<td>16.4</td>
</tr>
<tr>
<td></td>
<td>Farmer/Fisherman</td>
<td>3</td>
<td>2.7</td>
</tr>
<tr>
<td></td>
<td>Honorary</td>
<td>3</td>
<td>2.7</td>
</tr>
<tr>
<td></td>
<td>Self employed</td>
<td>50</td>
<td>45.5</td>
</tr>
<tr>
<td></td>
<td>Not working/Activities at home</td>
<td>17</td>
<td>15.5</td>
</tr>
<tr>
<td>Symptoms when suffering from COVID-19</td>
<td>Asymptomatic</td>
<td>35</td>
<td>31.8</td>
</tr>
<tr>
<td></td>
<td>Symptomatic</td>
<td>75</td>
<td>68.2</td>
</tr>
<tr>
<td>History of comorbid diseases</td>
<td>Yes</td>
<td>20</td>
<td>18.2</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>90</td>
<td>81.8</td>
</tr>
</tbody>
</table>

The results of the univariate analysis describes respondents with gender proportions, the majority are women (66.4%) with the most marital status, namely with married status (51.8%), college education level (57.3%), employment status mostly as self-employed (50%) and judging from the symptoms of the respondent's illness when suffering from COVID-19 most symptomatic (68.2%), besides that the majority of respondents have no history of comorbidities (81.8%).

Table 2. Distribution of respondent according to usia, support system, and quality of life in Ende Regency, East Nusa Tenggara Province (n=110),

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Median</th>
<th>Sd</th>
<th>Min-Mak</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>37.94</td>
<td>35.00</td>
<td>15.062</td>
<td>15-76</td>
<td>35.09-40.78</td>
</tr>
<tr>
<td>Support system</td>
<td>43.80</td>
<td>42.00</td>
<td>6.428</td>
<td>33-68</td>
<td>42.59-45.01</td>
</tr>
<tr>
<td>Quality of life</td>
<td>94.00</td>
<td>92.00</td>
<td>15.246</td>
<td>61-128</td>
<td>91.12-96.88</td>
</tr>
</tbody>
</table>

Table 2. describes respondents with gender proportions, the majority are women (66.4%) with the most marital status, namely with married status (51.8%), college education level (57.3%), employment status mostly as self-employed (50%) and judging from the symptoms of the respondent's illness when suffering from COVID-19 most symptomatic (68.2%), besides that the majority of respondents have no history of comorbidities (81.8%).
believed that the average age of respondents is between 35.09-40.78 years. The average support system of respondents is 43.80 with a standard deviation of 6,428. The lowest support system value is 33 and the highest is 68. The results of the interval estimation can be concluded that 95% are believed to have an average support system of respondents between 42.59-45.01. Quality of life was measured with a WHOQoL questionnaire with the average Quality of life at a score of 94.00 with a standard deviation of 15,246. The lowest quality of life was at a score of 61 and the highest score was 128. The results of the interval estimation can be concluded that 95% are believed to be the average quality of life of respondents between 91.12-96.88.

b. Analysis of bivariate

This analysis was used to determine whether there was a significant correlation between the support system and the quality of life analyzed using the Spearman correlation test. Before the correlation test, normality tests were carried out on the support system variables and the quality of life of post-COVID-19 patients using Kolmogorov-Smirnov. The results of the normality test of all variables show an abnormal data distribution (p<0.05) so that the test used is apearman test. The results of the analysis can be seen in table 3 as follows:

Table 3. Distribution of support system according to the quality of life of post-COVID-19 patients in Ende Regency, East Nusa Tenggara Province (n=110)

<table>
<thead>
<tr>
<th>Variable</th>
<th>r</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality of life</td>
<td>0.567</td>
<td>0.001*</td>
</tr>
</tbody>
</table>

*Spearman test
*p-value < 0.05

Table 3. above shows that the relationship between the support system and the quality of life of patients after COVID-19 obtained p value = 0.001 meaning that there is a significant relationship between the support system and the quality of life of patients after COVID-19. The correlation value of 0.567 indicates that the relationship between the support system and the quality of life has a moderate relationship strength with a positive correlation, meaning that the greater the support system, the better the quality of life.

4. Discussion

Encouragement from the surrounding environment, among others, in the form of attention, affection or appreciation in preventing, overcoming and reducing negative impacts that can harm a person, thus creating a sense of comfort and care, as well as reducing the appearance of stress in the individual is the implementation of the support system (Qi et al., 2020; Szkody et al., 2021; Xiao et al., 2020). In this explanation, it can be said that the existence of a support system in the form of concern, can reduce negative things in individuals. So far the current research has only a few presented data on support systems and quality of life in post-COVID-19 patients. The overall prevalence of the support system among 110 respondents with post-COVID-19 in this study was an average score of 43.80 with a standard deviation of 6,428 and for quality of life was at an average score of 94.00 with a standard deviation of 15,246.

In the period of recovery of physical condition and weakness after suffering from COVID-19 can cause concerns about social functioning in the family or community. This concern if it is excessive will have an impact on the onset of depression and a decrease in the quality of life. The existence of a support system is very effective for overcoming psychological pressure in difficult and depressed situations (Hou et al., 2020). Examples include positive support to help strengthen the body’s immune function, suppress physiological responses to stress and strengthen functions to respond to disease. Traumatic experiences usually appear in the period of being infected with COVID-19, during
quarantine or treatment until the recovery period. Lack of support system support can trigger a sense of loneliness in patients. Such loneliness can stem from separation from loved ones, fear of death, concerns about the physical health of their family (Cai et al., 2020), as well as uncertainty about future lives, giving rise to or worsening physical and mental health conditions. Patients with COVID-19 and post-COVID-19 have the potential to have a traumatic experience that continues due to the continuous sense of disturbance felt and negative reactions from the community so that it can affect the quality of life conditions of post-COVID-19 sufferers.

Post-COVID-19 patients usually still receive a negative view and feel deliberately avoided by family and community. Similarly Abdillah (2020), found that post-COVID-19 patients have suffered stigma from society leading to a form of 'social death'. Many patients tend to internalize family or community exclusion behaviors and attitudes towards them, resulting in a decrease in self-esteem and feeling an increase in prejudice that leads to a decrease in physical as well as mental health. Therefore, the support system in the environment around the patient has a great influence on the process of restoring health both physically and mentally. Support system can come from close family, friends, work friends, neighbors and friends in activity activities. Social contact is actually very important for physical and mental health (Yu et al., 2020). The support system that plays the most role is the family. The role of the family is one of the most important elements in providing support to patients after COVID-19. As stated by El-Zoghby et al (2020), states that support from the family is the most important element in helping individuals solve problems if there is support, self-confidence will increase and motivation to face the problems that occur will increase.

Family support system in terms of motivating and minimizing anxiety due to post-COVID-19 as a support to meet the emotional needs of sufferers. With a good family support system, anxiety due to negative stigma and the impact of the separation period when self-isolating can be resolved so that sufferers will feel comfortable while undergoing follow-up treatment, especially in patients with a history of comorbidities or sequelae of COVID-19 virus infection (Peprah & Gyasi, 2021). Patients who feel comfortable during treatment and recovery prevent a decline in the immune system, which affects their recovery process and improves their health status to their quality of life. During the pandemic and post-corona virus pandemic, it's time to support each other. While at home post-COVID-19 patients are considered cured but still need informal care. People with high social support will be able to reduce the stress experienced (they know that there is someone who will be able to help them) so that a person does not care about the amount of stress or anxiety that will be experienced can support in improving the quality of life. Support systems can reduce various forms of stress, improve coping mechanisms and improve quality of life (Kaligis et al., 2020).

Providing a support system with contact and social support can help reduce stress, depression, anxiety and isolation, as well as improve self-esteem, normal life, well-being and quality of life, while the lack of social support has the opposite effect. The positive effect of a good support system can be explained that the support has a direct impact on health and well-being because it provides comfort, feels that it has a purpose in life and safety so that it can affect the improvement of the quality of life. Support when the relationship is sportive can help psychological relationships, strengthen healthy living practices and help recovery from illness (DePierro et al., 2020). Some patients state that instrumental support such as food, they get good attention from family, but for other support needs are still considered lacking, including emotional and appraisal support, as an example of support in the form of empathy, care and attention and encouragement in a positive direction and willing to understand family acceptance of the patient's condition post-COVID-19 and positive assessment and reinforcement (Szkody et al., 2021).

From this study, it was found that there is a relationship between the support system and the quality of life of patients after COVID-19 due to the increased self-motivation of patients. The existence of encouragement triggers a sense of enthusiasm to heal, fight diseases and be able to pass the recovery period well so that the quality of life increases. The decline in quality of life can decrease when post-COVID-19 sufferers imagine changes in their lives in the future.
due to a history of comorbid diseases suffered and accompanied by negative perceptions and stigmas from society about COVID-19 sufferers. Sometimes the stimulation, perception and negative stigma in the founder and family or community of the COVID-19 disease weighs more on the sufferer than the disease he suffered, including during the recovery period after being infected with COVID-19. Protracted and untreated negative feelings can cause stress, prolonged stress can also result in feelings of loss of control, rejection, and even depression so that it affects physical health and quality of life that is declining (Greenberg et al., 2020; Handayani et al., 2020). This opinion is in line with the results of research by Greenhalgh et al (2020), stating that if a person suffers from post-COVID-19 accompanied by a history of comorbidities, the individual will have higher anxiety because of concerns about his history of illness accompanied by his condition that has been infected with the COVID-19 disease. The existence of a large negative perception related to the incidence of COVID-19 and its treatment has an influence on the psychology of post-COVID-19 sufferers who have a negative view of their health status. Therefore, the support system obtained can have a positive influence on the quality of life of COVID-19 and post-COVID-19 sufferers.

Patients who are in the healing and recovery period will recover faster if they get a support system that comes from a social environment, such as family and friends who have both suffered from illness so that it will make them feel cared for and not alone (Xu et al., 2020). The support system can make it easier for post-COVID-19 patients to adapt to their conditions so that they have a high spirit to recover from their illness and improve their health status. So with the support system, it is hoped that some post-COVID-19 patients can adapt to their new situation very quickly, without anxiety or negative self-stigma. It is hoped that post-COVID-19 patients can understand the social impact of the COVID-19 pandemic.

5. Conclusion

The conclusion was that there was a relationship with a positive correlation between the support system and the quality of life of patients after COVID-19. Support systems in dealing with the current post-coronavirus pandemic situation are very important in the physical and psychological dimensions. The positive effect of the support system provides confidence, comfort, improves the health status of patients after COVID-19. Support systems can lower various forms of stress, improve coping mechanisms and improve quality of life.

Acknowledgements
We acknowledge the support received from Poltekkes Kemenkes Kupang. In addition, the authors wants to thank, in particular, the patience, care and support from Public Health Center of Center Ende, East Ende, North Ende and South Ende Districts, especially those involved as respondents in this study and colleagues who have provided support so that the research can be carried out properly

References


