FACTORS AFFECTING THE QUALITY OF LIFE OF COVID-19 PATIENTS: SYSTEMATIC REVIEW

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ABSTRACT

Covid-19 survivors generally still feel there are problems with physical and psychological decline. The effects of prolonged conditions have an impact on quality of life. Quality of life is an element that motivates life, individual physical and psychological experiences that can change individual existence in the future, social status and individual characteristics. This study aims to identify factors that affect the quality of life of Covid-19 patients. This study uses a Systematic Review method. The sample is 9 journals from 2020 to 2023 that meet the inclusion criteria with a feasibility test based on the Joanna Briggs Institute (JBI) Critical Appraisal Tools instrument. Then using PRISMA to select journals. Data from a systematic review conducted on 9 English or Indonesian journals that met the inclusion criteria. In general, the 9 journals have similarities and differences. the results of this study indicate that the factors of age, gender, marital status, employment status, education level, family support, comorbidities, physical disorders, mental disorders, weight affect the quality of life of covid 19 patients. Health insurance factors and income levels do not affect the quality of life of Covid-19 patients. Age, marital status, employment status, education level, family support, comorbidities, physical disorders, mental disorders, and weight factors affect the quality of life of Covid-19 patients. Gender, health insurance and income level factors do not affect the quality of life of Covid-19 patients.

Keywords: factors covid 19; patients; quality of life

INTRODUCTION

Coronavirus Disease 2019 (COVID-19) is an infectious disease caused by Severe A cute Respiratory Syndrome Coronavirus 2 (SARSCoV-2). Coronavirus disease 2019 (COVID-19) was first reported in Wuhan at the end of 2019, then on January 30 2020 WHO designated the incident as a World Disturbing Public Health Emergency (KKMMD)/Public Health Emergency of International Concern (PHEIC) and on March 11 2020, WHO declared COVID-19 a pandemic (Lu et al., 2020; Shigemura, J., Ursano, R.J., Morganstein, J.C., Kurosawa, M., Benedek, 2020). WHO data quoted on April 22 2021, recorded 144,398,135 confirmed positive cases, around 122,861,648 of whom have recovered while 3,070,147 others have died.

Transmission of Covid-19 from symptomatic patients occurs through droplets released when coughing or sneezing. Apart from that, it has been researched that Covid-19 can be viable for at least 3 hours to 3 days (Susilo et al., 2020; van Doremalen N, Bushmaker T, Morris DH, Holbrook MG, Gamble A, Williamson BN, 2020). The virus can pass through mucous membranes, especially the nasal and laryngeal mucosa, then enter the lungs through the

respiratory tract. Next, the virus will attack target organs that express Angiotensin Converting Enzyme. 2 (ACE2), such as the lungs, heart, renal system and gastrointestinal tract (Gennaro et al., n.d.; Saefi, Fauzi, Kristiana, Cahya, et al., 2020). The incubation period for COVID19 is between 3-14 days. It is characterized by leukocyte and lymphocyte levels that are still normal or slightly decreased, and the patient does not feel any symptoms (Zhu, N., Zhang, D., Wang, W., Li et al., 2020).
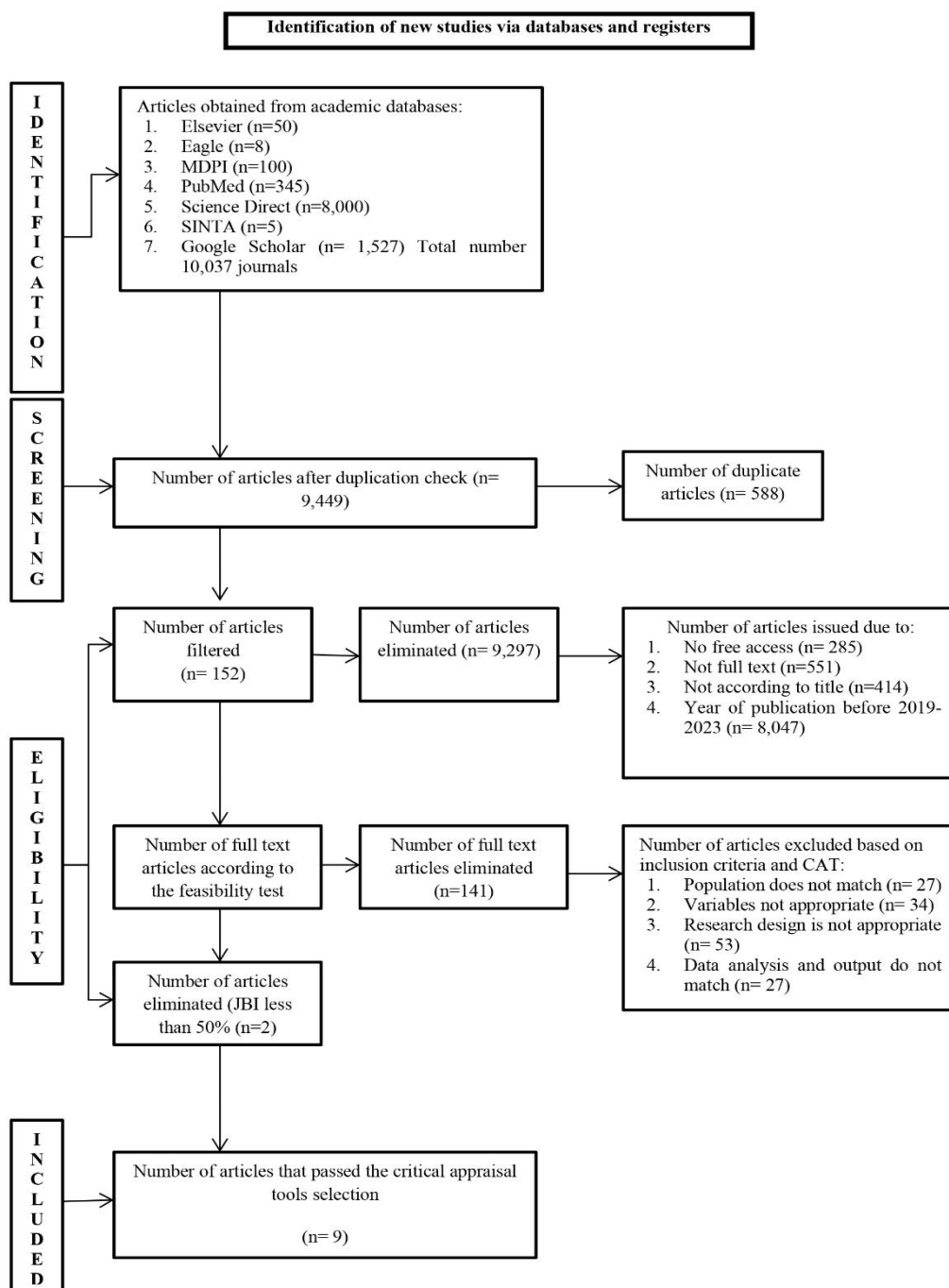
Patients who have tested positive for covid 19 have initial symptoms such as High temperature, continuous dry cough, and fatigue are common clinical symptoms associated with COVID-19 infection, sudden loss of smell (anosmia) and taste (ageusia) as the main initial symptoms of infection (Sheen et al., 2020). COVID-19 patients have a wide spectrum, ranging from no symptoms (asymptomatic), mild symptoms, pneumonia, severe pneumonia, ARDS, sepsis, to septic shock. Around 80% of cases were classified as mild or moderate, 13.8% experienced serious illness, and as many as 6.1% of patients fell into critical condition (Sandra et al., 2020). However, not all Covid-19 positive patients need to be hospitalized, patients without symptoms or having mild symptoms can self-isolate at home with monitoring (Fuk-Woo Chan et al., 2020; Saefi, Fauzi, Kristiana, Adi, et al., 2020). Covid-19 has affected every element of patients' lives in carrying out treatment both in hospital and independently. Not only does it change individual health directly but it also has significant psychological, economic, and sociological effects. Covid-19 patients do not have immunity to infection with this disease, ultimately causing impacts. which has a worse quality of life (Cao et al., 2020). Several research study results illustrate a decline in the quality of life of Covid-19 patients, in Zhejiang Province China the average value of quality of life for Covid-19 patients was 48.92%, a survey conducted in Europe (50, 6%), North America (38.5%) and other countries (10.9%) the average quality of life for Covid-19 patients is 55.83% (Shah et al., 2021), while in Iran the average HRQoL for Covid-19 patients 61.25%. Quality of life (QOL) is an individual's perception of his life in society in the context of existing culture and norms, and is related to goals, expectations, standards and concerns throughout his life.

According to the World Health Organization, quality of life has 4 domains, namely the physical domain, psychological domain, social domain and environmental domain. The quality of life of people affected by Covid-19 has decreased due to worsening conditions after contracting the disease. One of the factors that influence the quality of life of Covid-19 patients is individual characteristics such as age, gender, marital status, employment status, education level, health insurance and income level (Liu et al., 2020). Inpatients with Covid-19 have higher levels of anxiety and depression, which affects the patient's quality of life (Lin et al., 2020; Lu et al., 2020). Patients not only endure physical pain, but also mental disorders such as anxiety about whether their illness will be cured or not. Rumors and false information can cause panic and exacerbate anxiety and fear among patients (Ma et al., 2020) .

Research has been conducted on the factors that influence the quality of life of Covid-19 patients from 2019 to 2023. However, these studies have not clearly described how each factor influences the quality of life of Covid-19 patients. As in several studies, the various variables studied were not explained in relation to the quality of life of Covid-19 patients. Not all factors that influence the quality of life of Covid-19 patients are used as research variables. Apart from that, in relation to the factors that influence the quality of life of Covid-19 patients, there is no more in-depth explanation of why these variables are whether or not there is a relationship with the quality of life of Covid-19 patients. This can be answered by conducting an in-depth review through a systematic literature review with the aim of further explaining scientific evidence related to factors that influence the quality of life of Covid-19

patients. A systematic review of these factors will provide deeper insight into the impact of the pandemic on other aspects of life wider. The purpose of this study was to identify factors that affect the quality of life of Covid-19 patients.

METHOD

Identification of new studies via databases and registers

IDENTIFICATION

Articles obtained from academic databases:
1. Elsevier (n=50)
2. Eagle (n=8)
3. MDPI (n=100)
4. PubMed (n=345)
5. Science Direct (n=8,000)
6. SINTA (n=5)
7. Google Scholar (n= 1,527) Total number 10,037 journals

SCREENING

Number of articles after duplication check (n= 9,449) → Number of duplicate articles (n= 588)

ELIGIBILITY

Number of articles filtered (n= 152) → Number of articles eliminated (n= 9,297) → Number of articles issued due to:
1. No free access (n= 285)
2. Not full text (n=551)
3. Not according to title (n=414)
4. Year of publication before 2019-2023 (n= 8,047)

Number of full text articles according to the feasibility test → Number of full text articles eliminated (n=141) → Number of articles excluded based on inclusion criteria and CAT:
1. Population does not match (n= 27)
2. Variables not appropriate (n= 34)
3. Research design is not appropriate (n= 53)
4. Data analysis and output do not match (n= 27)

Number of articles eliminated (JBI less than 50% (n=2)

INCLUDED

Number of articles that passed the critical appraisal tools selection (n= 9)

This study uses a literature review that draws conclusions about the topic "factors that affect the quality of life of patients" based on the interpretation of existing literature using the PICO framework. In this study, the search strategy was carried out using data-based and keywords. The databases used were Google Scholar, Science Direct, and DOAJ. The keywords used were (Patient*) AND (Covid-19 OR Corona OR Corona Virus*). Eligibility Criteria: In this study, the inclusion criteria were used, namely articles with a range of years 2019-2023,

articles in English and Indonesian, providing full text: abstract, introduction, methods, results, discussion. The study search was conducted on Covid-19 patients, the focus was on quality of life. The search for study articles was for articles that used an observational design. Articles that did not match the keywords and research results wyuyi0ere excluded. Data Extraction: The article search stage starts from the screening stage that matches the inclusion criteria, and articles that do not match the keywords and research results are excluded. After being obtained according to the inclusion criteria, an assessment will be carried out using JBI (The Joanna Briggs Institute) Critical Appraisal. The search for article studies is an article that uses an observational design. The search strategy was carried out through three databases, including Google Scholar, Science Direct, and DOAJ. After the search strategy was carried out, 10,037 articles were obtained, distributed from Google Scholar as many as 1,527 articles, Science Direct as many as 8,000 articles, and DOAJ as many as 510 articles. At the screening stage, there were 588 duplicate articles in journals so that the number of articles after being checked for duplication was 9,449 journals. Then the screening was carried out again leaving 152 journals. The feasibility test based on the inclusion and exclusion criteria and with the CAT test, there were 141 journals eliminated. In this study, there are 9 journals from 2020 to 2023 that passed the identification, screening, and feasibility stages which will then be analyzed in the study. Data synthesis in this study was carried out by comparing literature that has met the quality assessment and inclusion and exclusion criteria. Data synthesis refers to the research objective, namely to determine the factors that influence the quality of life of Covid-19 patients. The data extraction output is in the form of a table consisting of the name of the researcher, year of publication, research title, research design, sample population and research results.

RESULTS

Table 1.
Key Findings from Research Articles

No	Title/Author/Year	Country	Types of research	Population and Sample Size	Results
1	Analysis of Factors Affecting the Quality of Life of Covid-19 Survivors (Astuti et al., 2022)	Indonesia	Quantitative, *Cross Sectional*	Population:The population of this study was 115 people in all Covid-19 patients Sample: *probabilistic techniques (probability) sampling*	The results show several factors that influence the quality of life of Covid-19 patients are age (p-value = 0.000), gender (p-value = 0.454), congenital disease (p-value = 0.000), marital status (p-value = 0.000), occupation (p-value = 0.000), health insurance (p-value = 0.147), income (p-value = 0.224), education (p-value = 0.224) and social support (p-value = 0.000).
2	Factors Affecting the Quality of Life of Survivors Covid-19 (Laili & Muchsib, 2022)	Indonesia	Quantitative, *Cross Sectional*	Population:all Covid-19 survivors. Sample:*purposive sampling* with total 64 samples.	The results of the study stated that there was a relationship between age (p-value (0.032), education (p-value 0.043), employment status (p-value 0.039), and support system (p-value 0.001) with the quality of life of Covid-19 survivors.
3	Factors Affecting the Quality of Life of Cancer Patients Covid-19 Pandemic Period At The Indonesian Cancer Foundation Surabaya (EU Dewi & Widari, 2021)	Indonesia	Quantitative ,*Cross Sectional*	Population:19 respondents who are cancer sufferer Sample:*Total sampling* withtotal 19 samples.	The results of this study indicate that age, gender, education level, socio-economic, marital status and employment factors do not affect the quality of life of cancer patients during the Covid-19 pandemic. The duration of illness and family support factors affect the quality of life of cancer patients during the Covid-19 pandemic.

No	Title/Author/Year	Country	Types of research	Population and Sample Size	Results
4	The Relationship Between Family Support and Quality of Life of Hemodialysis Patients During the Covid-19 Pandemic (F. An. Dewi Et Al., 2022)	Indonesia	Quantitative ,*Cross Sectional*	Population: The population in this study was all hemodialysis patients in 2021 as many as 156 patients. Sample:*Total sampling*withtotal 156 samples.	there is a family support relationship with the quality of life of hemodialysis patients during the Covid-19 pandemic in the intensive care unit hemodialysis Gatoel Hospital, Mojokerto City
5	Quality of Life of Patients with Hypertension During Covid-19 Pandemic (Sulistini et al., 2022)	Indonesia	Quantitative ,*Cross Sectional*	Population:70 people Hypertension sufferers. Sample:*Purposive sampling*withtotal 70 samples.	Poor sleep quality 60%, poor quality of life 62.9%, has a significant relationship sleep quality with quality of life (p value 0.0005).
6	Factors Affecting Covid 19 Patients (Syauqimubarok & Mufarika, 2020)	Indonesia	Quantitative ,*Cross Sectional*	Population:91 Respondents Sample:*Random sampling* with total 74 samples.	The results of the study showed that there was a relationship between quality of life and physical disorders (p=0.008), there was a relationship between quality of life and mental disorders (p=0.000), there was a relationship between quality of life and excess weight (p=0.001).
7	*Prolonged Symptoms After COVID-19 In Japan: A Nationwide Survey Of The Symptoms And Theirs Impact On Patients' Quality Of Life* (Honda Et Al., 2023)	Japan	Quantitative ,*Cross Sectional*	Population:The population in this study was 32,000 Sample:*purposive sampling*with2,397 who have had Covid, 17,387 who have never been exposed to Covid	In total, 19,784 respondents were included in the analysis; of these, 2397 (12.1%) had previously COVID-19 history. Individuals with a previous history of COVID-19 have lower rates health-related QOL scores.
8	The Health-Related Quality Of Life And Voice Handicap Index In Recovered COVID-19 Patients In Comparison To Healthy Subjects (Khoddami Et Al., 2023)	Iran	Quantitative ,*Cross Sectional*	Population:68 Respondents 34 COVID-19 recovered patients and 34 healthy subjects Sample:*purposive sampling*with34 COVID-19 recovered patients and 34 healthy subjects	The results showed that COVID-19 patients scored significantly lower in all subcategories and two major components of quality of life compared to the healthy group (P<0.005). Also, patients survived significantly higher results on the VHI and its subscales (P < 0.005). A significant correlation was observed between physical and mental component summary (PCS and MCS) SF-36 with total VHI score in COVID-19 patients
9	*Quality Of Life And Mental Health In Multiple Sclerosis Patients During The COVID-19 Pandemic* (Rodríguez-Agudelo Et Al., 2023)	Mexico	Quantitative ,*Cross Sectional*	Population:142 Respondents Sample:*purposive sampling*with97 Patients	Quality of life is influenced by limitations in instrumented activities of daily living (IADL). mental disorder items about anxiety were more prevalent before the pandemic (anxious mood; p=0.02, helplessness; p=0.01), sleep problems; p=0.001 and cardiovascular symptoms; p = 0.001.

DISCUSSION
Based on the research topic raised by the researcher regarding "Factors Affecting the Quality of Life of Covid-19 Patients" reviewed from the independent variables, the researcher obtained journals that had independent variables of age as many as 6 journals (16.6%), gender as many as 5 journals (13.8%), marital status as many as 5 journals (13.8%), education level as many as 5 journals (13.8%), employment as many as 3 journals (8.3%), income as many as 3 journals (8.3%), support systems as many as 3 journals (8.3%), comorbidities as many as 3 journals (8.3%), physical disorders as many as 2 journals (5.5%), mental disorders as many as 2 journals (5.5%), health insurance as many as 1 journal (2.7%), duration of illness as many as 1 journal (2.7%), weight as many as 1 journal (2.7%). Reviewed from the dependent variables, the researcher obtained journals that had dependent variables of quality of life as many as 9 journals (100%).

The findings of the study concluded that the quality of life of COVID patients is influenced by age. This is because older patients tend to experience more severe symptoms and higher complications which can negatively impact quality of life. Slower recovery. This can impact quality of life because it may take longer to fully recover, even after acute symptoms have subsided. Older patients may require more intensive medical care and long-term care support. This can affect quality of life because they may have to spend more time in hospitals or long-term care facilities (Petrillo et al., 2022). Furthermore, unmarried people predominantly have a lower quality of life, married people predominantly have a high quality of life. This is because partners in marriage can usually provide emotional and physical support that can help patients cope with the stress and challenges posed by COVID-19. This support can have a positive impact on the patient's quality of life. For those who are single or live alone, social isolation during the pandemic can be more challenging. Social isolation can negatively impact mental and emotional well-being, which in turn can affect quality of life. Patients in marriage have more financial resources and support to deal with the economic impact of the pandemic. This may impact their ability to access necessary medical care (Astuti et al., 2022).

Judging from the frequency distribution of respondents' employment status in the journals that have been obtained, it was found that there were results that people who did not have dominant jobs had a lower quality of life, people who had dominant jobs had a high quality of life. This is because COVID-19 patients who lose their jobs or income due to the pandemic can experience significant financial stress. This can impact their ability to access medical care, medicines, and other daily necessities, which in turn can affect physical and mental recovery. COVID-19 patients often require ongoing medical care, especially if they experience severe or complex post-COVID symptoms. For those who have health insurance through work, losing a job can also mean losing access to the necessary medical care. Employment status can also affect the level of social support received by patients. Jobs that require certain physical activities or physical stress can affect the physical recovery of recovering COVID-19 patients. If the job is too physically demanding, it can slow down the recovery process and cause further complications (Laili & Muchsib, 2022).

Education plays a role in influencing the quality of life of COVID patients, patients with higher levels of education tend to be better able to understand and follow health protocols recommended by medical authorities. They can be more effective in maintaining social distancing, wearing masks, and maintaining hand hygiene, all of which can help prevent transmission and protect their own health. Individuals with higher education may have easier access to medical information that can help them understand the latest developments regarding COVID-19, available treatment options, and current recommendations from

medical experts. Education can improve a person's ability to understand and cope with complex situations. This includes the ability to adapt to changes caused by the pandemic, such as changes in daily living habits, work, and social interactions.

Family support affects the quality of life of COVID-19 patients because it can help patients feel more empowered and in control of decisions about their care and recovery. Families can help patients understand medical information and instructions given by medical personnel, so that patients better understand their condition and the care needed. Family support can encourage patients to seek medical help earlier if symptoms worsen, which can avoid more serious complications (Rodríguez-Agudelo et al., 2023). Patients with comorbidities are more susceptible to serious complications and require more intensive medical care, which can impact their quality of life. Patients with comorbidities take medications or undergo treatments that make them more susceptible to side effects or drug interactions with COVID-19 treatment. This can affect their comfort and quality of life. Some comorbidities can cause physical limitations, such as difficulty breathing in patients with chronic lung disease. COVID-19 can also cause serious respiratory symptoms, which can worsen existing limitations and interfere with patients' ability to carry out daily activities.

COVID-19 patients often report persistent fatigue, even after recovering from the acute infection. This fatigue can severely impair quality of life, hindering patients' ability to perform daily tasks, work, and engage in social activities. Loss of sense of smell (anosmia) and taste (ageusia) are common symptoms in COVID-19 patients. Loss of the ability to smell and taste food can affect appetite and enjoyment of food, thereby affecting aspects of quality of life. Physical impairments associated with COVID-19 can have serious psychological impacts. Patients may feel anxious, depressed, or even develop post-traumatic stress disorder (PTSD) due to their experiences during the infection and recovery. Patients who recover from COVID-19 may face limitations in physical activity. This could be due to physical weakness, decreased lung capacity, or other problems related to the infection (Syauqimubarok & Mufarika, 2020). The stress and anxiety caused by the COVID-19 pandemic can affect eating patterns and lead to eating disorders such as anorexia or bulimia. COVID-19 patients are also at risk of developing anxiety disorders such as panic disorder, generalized anxiety disorder, or social anxiety disorder. This can cause excessive fear, physical tension, and impaired concentration (Khoddami et al., 2023).

COVID-19 patients with higher body weight may experience more severe symptoms, including difficulty breathing, extreme fatigue, and other general discomfort. This can impact their quality of life by limiting their daily activities. Being underweight can affect the immune system, making it less effective at fighting infections. This can lead to a poor immune response to COVID-19 and cause the disease to last longer. These conditions can worsen COVID-19 symptoms and affect overall quality of life. This can affect the course of the disease and the patient's recovery (Honda et al., 2023). Health insurance is a factor that does not affect the quality of life of Covid-19 patients. Based on data, Covid-19 is a pandemic for Indonesia. In accordance with Article 28 H paragraph (1) of the 1945 Constitution of the Republic of Indonesia, it implicitly states that the state guarantees health for its citizens. So that the cost of handling Covid-19 including the treatment of Covid-19 patients will be included in the National Health Insurance (JKN) scheme from BPJS (Social Security Administering Body) Health and borne by the government. Therefore, during Covid-19 treatment, patients will not be burdened by health insurance to obtain the type of medical care or medicine that may be needed by the patient because it has been covered by the health insurance. Patients will get the same treatment when exposed to Covid-19. The quality of life

of Covid-19 patients also cannot be affected by the availability and accessibility of health services or health insurance. Health insurance during the Covid-19 period for all Covid-19 patients can help in terms of costs, access.

The findings of the study concluded that there was no influence between gender and the quality of life of Covid patients. This is because both women and men are equally susceptible to psychological effects such as anxiety and depression as well as physical symptoms that may be experienced when infected with Covid-19 during the Covid-19 pandemic. During Covid-19, patients need treatment either in hospital or at home by self-isolating which is monitored by the Health team. At that time, all patient needs will be guaranteed by the government, both in terms of easy access to treatment and food assistance through the Non-Cash Food Assistance (BPNT) program, Family Hope Program (PKH), Direct Cash Subsidies (SLT), Social Safety Net Assistance and Regional Welfare Rice. In addition, there is also a lot of assistance from various private agencies to help residents affected by Covid-19. So, during Covid-19, patients will feel guaranteed both in terms of Health Insurance and Social Security, so there is no difference in the quality of life of patients with high incomes and patients with low incomes.

CONCLUSION
The results of this study indicate that age, marital status, employment status, education level, family support, comorbidities, physical disorders, mental disorders, and weight affect the quality of life of Covid-19 patients. Gender, health insurance and income levels do not affect the quality of life of Covid-19 patients.

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