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## Overview of the Covid-19 Patient Nursing Diagnosis

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### Abstract

Covid-19 is a pneumonia caused by coronavirus, very fast transmission. This study aims to descriptions nursing diagnosis in covid-19 patients. This is a descriptive study uses quantitative methods. The sampling technique used is consecutive sampling with total samples are 240 medical records of covid-19 patients undergoing treatment at Fatmawati Hospital, both suspected, probable, and confirmed cases. The results showed that nursing diagnoses that often appeared in Covid-19 patients were the risk of infection (spread), ineffective airway, acut pain, anxiety, and the risk of nutritional deficits. The results of this study can be used for the hospital in making Covid-19 Nursing Care Guidelines, and for nurses in increasing their competences in care covid-19 patients.

Keywords: Nursing diagnoses, Covid-19

### Preliminary

Coronavirus Disease 2019 (COVID-19) is a contagious disease caused by Severe Acute Respiratory Syndrome Coronavirus 2 (SARSCoV-2). SARS-CoV-2 is a new type of coronavirus that has never been previously identified in humans. There are two types of coronavirus that are known to cause diseases that can cause severe symptoms, such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS) (WHO, 2020).

Common signs and symptoms of COVID-19 infection include acute respiratory symptoms such as fever, cough and shortness of breath. Severe cases of COVID-19 can cause pneumonia, acute respiratory syndrome, kidney failure, and even death (WHO, 2020). On December 31, 2019, the WHO China Country Office reported a case of

pneumonia of unknown etiology in Wuhan City, Hubei Province, China. On January 7, 2020, China identified the case as a new type of coronavirus. On January 30, 2020, WHO declared the incident a Public Health Emergency of International Concern (PHEIC) and on March 11, 2020, WHO declared COVID-19 a pandemic.

The spread of COVID-19 is fast and widespread because it can be transmitted through human-to-human contact. Until now, news about COVID-19 is still the main concern of all countries to be vigilant and stay alert to face COVID-19 for which a cure and vaccine has not been found. The increase in the number of COVID-19 cases is progressing fast enough and there has been a spread between countries.

The increase in the number of cases took place quite rapidly, and spread to various countries in a short time. As of

27 July 2020, WHO reported 16,262,481 confirmed cases with 648,913 deaths worldwide (Case Fatality Rate / CFR 43.9%). Indonesia reported its first case on March 2, 2020. Cases are increasing and spreading rapidly throughout Indonesia. As of 27 July 2020 the Ministry of Health reported 98,778 confirmed COVID-19 cases with 4,781 deaths (CFR 4.8%), while DKI Jakarta Province reported 19,125 confirmed COVID-19 cases with 759 deaths (CFR 3.9%) (bmgcovid, 2020). As of 1 July 2020, Fatmawati Hospital has treated 595 COVID-19 patients, with 208 deaths (CFR 34.95%).

Based on research conducted by the Chinese CDC, it is known that the most cases occurred in men (51.4%) and occurred at the age of 30-79 years and the least occurred at <10 years (1%). As many as 81% of cases were mild cases, 14% were severe, and 5% were critical (Wu Z and McGoogan JM, 2020).

The incubation period for COVID-19 averages 5-6 days, with a range between 1 and 14 days but can reach 14 days. The highest risk of transmission is acquired in the first days of illness due to high concentrations of the virus in secretions. An infected person can be infectious up to 48 hours before symptom onset (presymptomatic) and up to 14 days after symptom onset. A study by Guen et. al, (2020) reported that 12.6% showed presymptomatic transmission. It is important to know the presymptomatic period because it allows the virus to spread through droplets or contact with contaminated objects. In addition, that there are cases of confirmation asymptomatic (asymptomatic),

The Indonesian government has issued Presidential Decree No.11 of 2020 concerning the Determination of the 2019 Corona Virus Disease (COVID-19) Public Health Emergency. The Decree of the Ministry of Health of the Republic of Indonesia Number HK.01.07 / MENKES

/ 169/2020 concerning the Designation of a Referral Hospital for Certain Emerging Infectious Diseases said that the Fatmawati Central General Hospital is a reference for handling Covid-19 cases in Indonesia, especially the DKI Jakarta area.

From the literature review that has been carried out, there is no evidence-based nursing diagnosis standard for COVID-19 patients, which exists only based on literature studies, so that it makes researchers want to examine nursing diagnoses that occur in COVID-19 patients, especially COVID-19 patients who are being treated at Fatmawati Hospital, so it is hoped that a standard nursing diagnosis for COVID-19 patients can be used by all nurses in Indonesia in treating COVID-19 patients. For nurses to establish a nursing diagnosis in these patients.

## Methods

This research is a quantitative research, the research design uses descriptive methods. Researchers collected research data from the medical records of covid patients who had undergone treatment at Fatmawati General Hospital, previously the researchers coordinated with the medical record installation regarding the medical records of Covid-19 patients.

The population in the study were all covid-19 patients treated at Fatmawati General Hospital. The sample selection used consecutive sampling, namely selecting all medical records of covid patients encountered and meeting the inclusion and exclusion criteria. The sample of this study was 240 medical records of covid patients, both suspected, probable, and confirmed cases.

## Results and Discussion

This research was conducted at Fatmawati General Hospital. Data were collected on 11 May - 24 August 2020 with a total sample of 240 medical

records of covid patients being treated at Fatmawati General Hospital, both suspected, probable, and confirmation diagnoses.

Table 1. Characteristics of Respondents by Age (n=240)

Age category	Frequency	Percentage
Neonates	25	10,41%
Child	10	4,16%
Adult	155	64,59%
Elderly	50	20,84%
<b>Amount</b>	<b>240</b>	<b>100%</b>

Table 1 shows that the age characteristics of patients range from age levels from neonates to the elderly. This is the same as mentioned by the CDC (2020) that covid can attack various ages. This is in line with the research conducted by Cortis (2020) which looked at the age distribution of patients who experienced covid-19, in the results of his study it was stated that covid occurred in children as much as 16.08%, adults 71.91% and the elderly 12.01. %, in his research it was explained that the elderly is the age most at risk of experiencing Covid-19.

Table 2. Characteristics of Respondents Based on Comorbid Diseases of Covid-19 Patients

Comorbid	Frequency	Percentage
CKD	39	16,30%
Diabetes Mellitus	34	14,20%
Hypertension	23	9,58%
Heart disease	7	2,91%
<b>Amount</b>	<b>103</b>	<b>42,99%</b>

In this study, 103 patients (42.99%) were covid patients with comorbidities. The most common comorbidities were CKD (Chronic Kidney Disease) with 39 patients (16.30%), diabetes mellitus as many as 34 patients (14.20%), hypertension with 23 patients (9.58%), and heart disease as many as 7 patients. (2.91%), this is in line with what Guan et al (2020) stated that patients who have a history of hypertension, heart disease,

diabetes mellitus, stroke, hepatitis B, kidney failure, malignancy or immunodeficiency are at high risk of experiencing covid compared to patients without a history of the disease.

CKD patients are easily exposed to covid-19, this is because CKD patients experience uremia, vitamin D deficiency, and excessive iron accumulation in the body, thereby increasing the risk of infection. Vitamin D functions to increase phagocytosis, so that in conditions of vitamin D deficiency causes a decrease in phagocytosis, besides that iron that accumulates in the body can stimulate the growth of microorganisms, so CKD patients will easily experience Covid-19 exposure (D'Marco et al., 2020)

Table 3. Characteristics of Respondents Based on The Diagnosis of Covid-19 (n=240)

Diagnosis of Covid-19	Frequency	Percentage
<b>Suspect</b>	<b>81</b>	<b>33,75%</b>
Neonatus	25	10,41%
Child	5	2,08%
Pregnant mother	13	5,41%
Comorbid	30	12,5%
No comorbid	8	3,33%
<b>Probable</b>	<b>68</b>	<b>28,33%</b>
Neonatus	0	0%
Child	2	0,8%
Pregnant mother	16	6,67%
Comorbid	42	17,5%
No comorbid	8	3,33%
<b>Confirmation</b>	<b>91</b>	<b>37,91%</b>
Neonatus	0	0%
Child	3	1,25%
Pregnant mother	5	2,08%
Comorbid	36	15%
No comorbid	47	19,58%
<b>Amount</b>	<b>240</b>	<b>100%</b>

Table 5 above shows that the most suspected cases were in patients with comorbidities, namely 30 patients (12.5%), and the least were suspected cases in pediatric patients, namely only 5 patients (2.08%). Most probable cases were in comorbid patients as many as 42 patients (17.5%), and no neonates with probable and confirmed cases were found.

Meanwhile, most confirmed cases were non-comorbid patients as many as 47 patients (19.58%), and there were no neonates with confirmed covid-19.

The results of this study also show that in neonatal patients treated at Fatmawati General Hospital, 100% of the diagnosis of covid is suspected, this is as stated by the CDC (2020) that covid is transmitted through droplet or aerosol transmission not through the placental blood flow of the mother to the fetus, even though the mother confirmed covid-19.

In addition, the most comorbid patients were diagnosed as probable, namely 42 patients (17.5%), this could be because comorbid patients often appear symptoms that are almost similar to Covid, so these patients are treated in the Covid-19 service room. Most confirmed cases occurred in non-comorbid patients as many as 47 patients (19.58%), this could be due to the length of the covid pandemic that occurred in Indonesia so that more people experienced confirmed covid.

The results of this study also showed that the main complaints of Covid-19 patients were cough 76.7%, fever 72.6%, shortness of breath 48%, sore throat 22%, nausea 20.5%, dizziness 20.5%, dysgeusia 17, 8%, 16.4% anosmia, 16.4% weakness, 16.4% whole body pain, 13.7% decreased appetite, 11% vomiting, 8.2% diarrhea, and 9.5% colds.

This is the same as stated by Heltzer (2020) that the symptoms of Covid patients are fever 78%, cough 57%, fatigue 31%, anosmia 25%, dysgeusia 23%. Likewise, according to Kevin et al (2020) that the signs of Covid symptoms are 88% fever, 38% fatigue, 14% headache, 6% colds, 19% shortness of breath, 33% cough, 4-14% diarrhea, 15% muscle pain. Shortness of breath or a frequency of breath > 30 x / minute is a sign of severe pneumonia. In pediatric

patients, the increase in respiratory rate was assessed by age.

In Covid-19 patients, anosmia and dysgeusia are often found, this is because Covid-19 patients experience decreased blood oxygenation, including in peripheral blood vessels in the nose and in the mouth, thus affecting the function of these organs (Gonzalez-Duarte & Kaufmann, 2020).

In covid patients with comorbid symptoms, there was a decrease in consciousness by 12.1%. This is because in the case of covid with comorbidities, the patient's clinical symptoms worsen because of the comorbidities, so that covid-19 patients with comorbidities experience a decrease in consciousness due to lack of oxygen in their bodies, especially their brains.

This is as explained by Gonzales-Duarte (2020) that covid patients experience hypoxemia due to inadequate gas exchange in the lungs, besides that the replication of the covid virus in the blood can suppress oxygen levels in the blood and eventually oxygen levels in the tissues decrease, so that patients experience loss of consciousness.

Changes in consciousness generally indicate decreased perfusion in the brain so that it requires immediate treatment. In addition, pediatric patients with decreased consciousness, breastfeeding problems, and seizures accompanied by respiratory symptoms can be classified as pneumonia / severe Acute Respiratory Infections (ARI).

Table 4. Nursing Diagnosis of Covid-19 Patients at Fatmawati Hospital

Nursing Diagnosis	Frequency	Percentage
Risk of infection	149	62,08%
Ineffective breathing pattern	89	37,08%
Acute pain	62	25,83%
Anxious	57	23,75%
Risk of nutritional deficits	52	21,66%
Airway clearance is not effective	50	20,83%
Risk of falling	48	20,00%
Risk of hypovolemia	44	18,33%
Activity intolerance	29	12,08%

Nursing Diagnosis	Frequency	Percentage
Hyperthermia	19	7,91%
Excess fluid volume	12	5,00%
Decreased cardiac output	11	4,58%
Risk of ineffective cerebral perfusion	11	4,58%
Self-care deficit	11	4,58%
Risk of impaired skin integrity	11	4,58%
Risk of injury to the fetus	8	3,33%
Gas exchange disorders	7	2,91%
Risk of bleeding	2	0,83%

The most important nursing diagnosis in covid patients is the risk of infection, this is because the transmission of the Covid-19 virus is very fast, so the risk of spreading the infection can occur. As explained by WHO (2020) that the Covid virus can quickly spread through droplets or droplets of saliva and air, because the virus particles are very small.

In addition to the risk of infection, the nursing diagnosis that appears in covid patients is ineffective breathing patterns, ineffective airway clearance, gas exchange disorders, cerebral tissue perfusion disorders, and renal tissue perfusion disorders, activity intolerance, this is related to the supply and demand for oxygen in the body. , if the body lacks oxygen it causes disturbances in the respiratory system and other organs, both the kidneys and the cerebral.

Nursing diagnoses that arise include ineffective breathing patterns, ineffective airway clearance, activity intolerance, decreased cardiac output, risk of ineffective cerebral perfusion, nursing diagnoses that appear related to decreased oxygenation in covid patients (D'Marco et al, 2020).

In pregnant women, a nursing diagnosis is also obtained, the risk of injury to the fetus and the risk of bleeding, this is also related to the risk of decreased oxygenation from mother to fetus due to the mother experiencing covid infection (Yang, 2020), so the fetus is at risk of experiencing physical harm or damage during the pregnancy (PPNI, 2017)

In addition to physical nursing diagnoses, there were also nursing diagnoses of anxiety in covid patients. This is related to the Covid-19 pandemic which is a new source of stress for the world community today. The fear of covid-19 creates serious emotional distress, covid-19 patients must undergo strict isolation and must keep their distance from other people, including their immediate family, coupled with the presence of stigma and discrimination against people with covid-19 who are considered very contagious (Winurini, 2020). This results in covid patients feeling restless, having trouble sleeping, feeling worried about their covid condition, complaining of dizziness, all of which are symptomatic signs of patients experiencing anxiety (PPNI, 2017).

## Conclusion

Nursing diagnosis in covid-19 patients is very dependent on the response that occurs from covid-19 patients, ranging from mild to severe. Nursing diagnosis in covid-19 patients is related to patient oxygenation problems due to ventilation, diffusion and perfusion. In addition, nursing diagnoses in covid-19 patients are not only related to physical problems, but also to the patient's psychology.

Nurses can improve their competence in assessing clinical covid patients, so that the nursing diagnosis is enforced according to the patient's condition. This description of nursing diagnoses in covid patients can be used as material or reference in making guidance for covid-19 patient nursing care.

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