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## Diseases that are the Main Cause of Death During the Covid-19 Pandemic at RSAL Dr. Soedibjo Sardadi, Jayapura City

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### Abstract

**Background:** The spread of COVID-19 in Jayapura City, Papua Province, is getting out of control. The cumulative number of COVID-19 cases in Jayapura City until September 2021 was 12813 people and 271 people died. In addition to deaths that occur due to exposure to Covid-19, other causes of death are caused by various other diseases. **Objectives:** The overall goal of this research is to describe the main cause of death during Covid-19 at RSAL dr. Soedibjo Sardadi, Jayapura City. **Methods:** This is quantitative research augmented with qualitative research. On April 2021, data was collected in Jayapura City, specifically at RSAL dr. Soedibjo Sardadi. The quantitative sample in this study was all deaths at RSAL dr. Soedibjo Sarda during the COVID 19 pandemic from March 17, 2020 to March 17, 2021, or saturated sampling. While the informants in this study were chosen using a purposive sampling technique, they included the Head of the RSAL, Dr. Soedibjo Sardadi, the doctor in charge of the ER, and the doctor in charge of COVID 19. The proportions are seen in quantitative data analysis. **Result:** The deaths that occurred during the Covid-19 pandemic at RSAL dr. Soedibjo Sardadi, Jayapura City, 44 men (61.1%), and 28 women (38.9%). The most deaths were at the age of > 45 years, as many as 34 people (47.2%). The trend of deaths over time looks fluctuating, but it was found that in October 2020 the highest number of deaths was 15.28% and the least in December 2020 and March 2021 at 2.78%. The deaths caused by Covid-19 as many as 8 people (87.5%) and one (12.5%) suffered from Covid-19 with type 2 DM concomitant disease.

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**Keywords:** Cause of death; Covid-19.

## **1. Introduction**

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 pneumonia of unknown etiology as a new type of coronavirus (novel coronavirus). The novel coronavirus became a global pandemic and a health problem in several countries outside the People's Republic of China in early 2020. According to the World Health Organization (WHO), cluster cases of pneumonia with unknown etiology in Wuhan City have become a global health issue. The Novel Coronavirus was eventually identified as the cause of this pneumonia cluster. This pandemic continues to grow until there are reports of new deaths and cases outside China [1, 2].

The emergence of a new virus, which is currently causing great concern in various parts of the world, has a huge impact on human life, particularly in the health sector [3]. On February 12, 2020, WHO officially designated this novel coronavirus disease in humans as Coronavirus Disease (COVID-19). COVID-19 is caused by SARS-CoV-2, which belongs to the same large family of coronaviruses that caused SARS in 2003, but with a different type of virus. Although the symptoms are similar to SARS, the SARS death rate (9.6%) is higher than that of COVID-19 (currently less than 5%), despite the fact that the number of cases of COVID-19 is much higher than that of SARS. COVID-19 also has a wider and faster spread to several countries than SARS [4].

A pandemic is an epidemic that spreads simultaneously throughout a large geographic area, whereas an epidemic is an infectious disease that spreads quickly over a large geographic area and kills many people. An increase in disease rates that occurs suddenly in a population in a specific geographic area. According to the definition above, a pandemic is an epidemic that spreads across almost all countries or continents, usually affecting a large number of people.

COVID-19, caused by a novel coronavirus, was declared a pandemic in 2020. COVID-19 has become a public health emergency of international concern (PHEIC). Coronaviruses spread from person to person and cause severe respiratory disease. Based on the appearance of electron microscopy, this virus was later named severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) [5]. Patients with severe pneumonia complications will require ICU care and have a high mortality rate. A previous study discovered that of 41 patients diagnosed with COVID-19, 28 (68%) recovered and 6 (15%) died. In the larger case, it was found that 138 COVID-19 patients were hospitalized with a diagnosis of COVID-19, showing 47 (34%) patients were able to go home after being declared negative and 6 (4.3%) patients died [6].

The COVID-19 pandemic has caused an increase in illness and death rates across the country. As of March 15, 2021, there had been 120,747,285 confirmed cases of COVID-19 worldwide, with a death rate of 2,671,183. Indonesia is the first country in Southeast Asia to experience the COVID-19 pandemic, with 1,425,044 cases and a death rate of 38,573 people. Papua Province is one of those affected by the COVID-19 pandemic, with 19,543 confirmed cases and a death rate of 378, with a prevalence of 1.9%. According to the data, Jayapura City is the first of 29 regencies/cities in Indonesia to be affected by the COVID-19 pandemic. The data on confirmed

cases of COVID-19 as of March 15, 2021 in Jayapura City were 8,392 people with a death toll of 146 people.

Previous research at the Yowari Hospital revealed that the death rate due to previous comorbidities or diseases suffered by patients had increased by 71% [7]. Comorbid hypertension and diabetes mellitus, male gender, and active smokers are risk factors for SARS-CoV-2 infection, according to existing data. Males with a greater sex distribution are thought to have a higher prevalence of active smokers. It is suspected that ACE2 receptor expression is higher in smokers, hypertensives, and diabetics [8].

Previous experience has shown that when the health system is overwhelmed by a specific outbreak, deaths from diseases that should be preventable and treatable skyrocket. During the Ebola outbreak in Africa (2014-2015), the increase in death rates from measles, HIV/AIDS, tuberculosis, and malaria was greater than the increase in Ebola deaths. Disruption of health services can occur for a variety of reasons, including the fact that health care facilities are already overburdened and busy dealing with COVID-19 cases, or because people/patients are afraid to visit hospitals/health centers/clinics for fear of becoming infected. Furthermore, this can be caused by transportation difficulties as a result of the lockdown, or a lack of funds as a result of not working, etc.

Therefore, through this study, the researcher will analyze the trend of deaths that occurred during the COVID-19 pandemic based on age groups, causes of death and comorbidities or causal relationships with comorbidities in a quantitative manner which is then accompanied by a qualitative explanation of how cases of death during this pandemic are trying to be overcome by the Head of the Hospital and his staff. The location chosen was the Navy Hospital Dr. Soedibjo Sardadi, which is the only hospital located in South Jayapura where COVID-19 cases are quite high.

## **2. Methods**

This is quantitative research that is supplemented by qualitative research. To identify the situation in the past, the quantitative research method in this study employs a "retrospective" approach. Qualitative data from in-depth interviews back up the quantitative approach. Data collection was carried out in Jayapura City, precisely at the Indonesian Navy Hospital (RSAL) dr. Soedibjo Sardadi. Data collection is carried out in April 2021.

The quantitative population in this study were all cases of death during the COVID 19 pandemic at RSAL dr. Soedibjo Sardadi from March 17, 2020 to March 17, 2021. The qualitative population is all related to the analysis of deaths at the Soedibjo Sarda Hospital in Jayapura City.

The quantitative sample in this study were all cases of death during the COVID 19 pandemic at RSAL dr. Soedibjo Sarda from March 17, 2020 to March 17, 2021 or saturated sampling. While the informants in this study were determined by using purposive sampling technique, namely as many as 3 informants consisting of the Head of the RSAL dr. Soedibjo Sardadi, the doctor in charge of the ER, the doctor in charge of COVID 19. For quantitative data analysis, it is seen from the proportions. Quantitative data analysis employs descriptive analysis, which entails examining the image or description of each variable. The analysis will be presented in the form of a table and will use the frequency/proportion distribution of each variable.

**3. Results**

**3.1. The main deaths by gender and age during the Covid-19 pandemic at RSAL dr. Soedibjo Sardadi, Jayapura City**

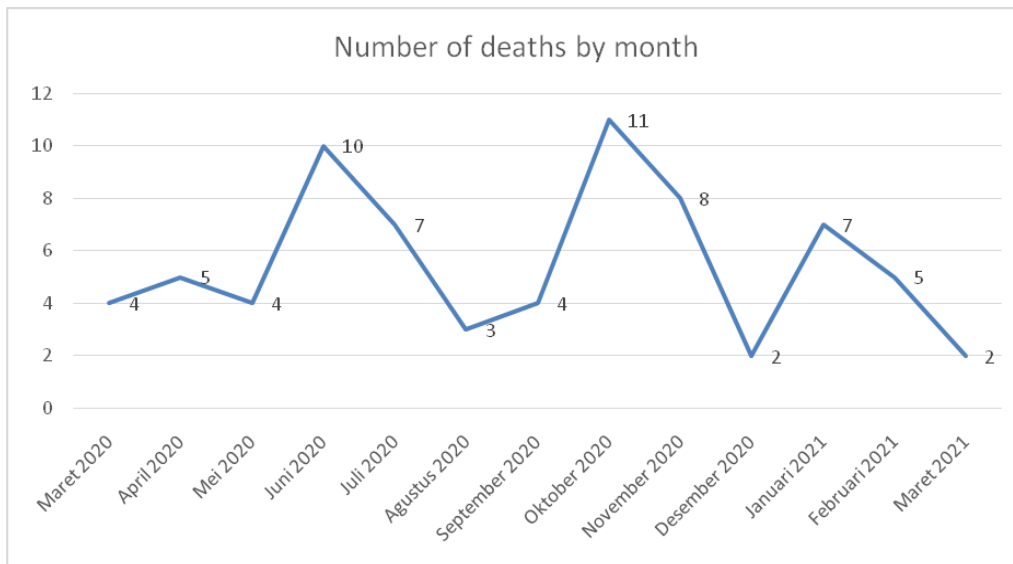
**Table 1:** The Proportion of death by gender and age at RSAL dr. Soedibjo Sardadi, Jayapura City.

Variable	Category	Frequency ( n )	Percentage ( % )
Gender	Male	44	61.1
	Female	28	38.9
Age	0 – 14 years old	6	8.3
	15 – 30 years old	8	11.1
	31 – 45 years old	24	33.3
	> 45 years old	34	47.2
<b>Total</b>		<b>72</b>	<b>100</b>

Source : Secondary Data, 2020 and 2021

Table 1 shows the deaths that occurred during the Covid-19 pandemic at RSAL dr. Soedibjo Sardadi, Jayapura City. 44 men (61.1%), and 28 women (38.9%). For age, the most deaths were at the age of > 45 years, as many as 34 people (47.2%).

**3.2. Major death trends by month during the Covid-19 pandemic at RSAL dr. Soedibjo Sardadi, Jayapura City**



**Figure 1:** Number of death by month (March 17, 2020 – March 17, 2021).

Figure 1 shows that the trend of deaths over time looks fluctuating, but it was found that in October 2020 the highest number of deaths was 15.28% and the least in December 2020 and March 2021 at 2.78%.

**3.3. The main cause of death from Covid-19 and Comorbidities at RSAL dr. Soedibjo Sardadi, Jayapura City**

**Table 2:** shows the deaths caused by Covid-19 as many as 8 people (87.5%) and one (12.5%) suffered from Covid-19 with type 2 DM concomitant disease.

Variable	Category	Frequency (n)	Percentage ( % )
Major death disease	Covid-19	7	87.5
	Covid-19 + Comorbidities	+ 1	12.5
<b>Total</b>		<b>8</b>	<b>100</b>

Source : Secondary Data, 2020 and 2021

#### 4. Discussion

##### 4.1. The main deaths by gender and age during the covid-19 pandemic at RSAL dr. Soedibjo Sardadi, Jayapura City

The results of the study found that the number of deaths by gender was 44 (61.1%) male deaths, more than women, namely 28 (38.9%) deaths. The results of previous studies also found that the number of deaths increased at the age of > 15 years and was male [9]. The results of previous studies also obtained demographic data which showed that women always had a higher life expectancy than men [10].

The results of the study found that the highest number of deaths was at the age of > 45 years or what we often called the elderly as much as 47.22%. Previous research also found that the elderly had a mortality proportion of about 57%. The elderly (elderly) are the population at risk, namely the group of people who are vulnerable to health problems and are getting worse because of many influencing factors. The aging process in humans will have an impact on the health of the elderly. The increasing age of the elderly will experience physical vulnerabilities both due to natural factors and due to disease factors [11].

##### 4.2. Major death trends by month during the Covid-19 pandemic at RSAL dr. Soedibjo Sardadi, Jayapura City

The results of this study found that the mortality trend over time seemed to fluctuate, but it was found that in October 2020 the highest number of deaths was 15.28% and the least in December 2020 and March 2021 at 2.78%. Anxiety is one of the causes of the high death rate during the pandemic. People's anxiety so they don't dare to come to health facilities [12]. In October 2020, COVID-19 cases in the Papua Province have started to decline, which can be seen through daily reports on the covid19.go.id distribution map, so that month the community dared to go to the hospital for treatment because the symptoms were severe. Our interview with one of the patients seeking treatment at the RSAL stated that during the pandemic he did not intend to come for treatment to the hospital.

According to a mother who came to check her pregnancy: "During the covid pandemic, I did not dare to go to the hospital, especially when the pain was not too heavy when I was sick. I only took paracetamol, which can be

*obtained freely. In my opinion, at the time of covid, people visited for treatment a little because there was a fear of the public to meet other people, the second one was the advice from the government to stay at home was one of the supporting factors Why many people did not visit the hospital there was also a sense of fear to meet people, especially in the hospital environment because at that time I thought that the spread of the Corona virus was one of the many hospitals in health facilities."*

#### **4.3. The main cause of death from Covid-19 and Comorbidities at RSAL dr. Soedibjo Sardadi, Jayapura City**

From the results of the study, it was found that there were 8 deaths caused by Covid-19 and one of them suffered from Covid-19 with type 2 DM concomitant disease [13]. Based on the main causes of death in the period March 2020 to March 2021, it is known that there are 72 cases of death, and it is known that from the disease that causes death, the proportion of deaths due to COVID-19 is 11%. COVID-19 is an infectious disease that has a broad spectrum, ranging from asymptomatic, mild symptoms, pneumonia, severe pneumonia, ARDS, sepsis, to septic shock. The course of the disease begins with an incubation period of about 3-14 days (median 5 days). At this time leukocytes and lymphocytes are still normal or slightly decreased and the patient is asymptomatic. In the next phase (the initial symptoms are generally mild), the virus spreads through the bloodstream, presumably mainly in ACE2-expressing tissues such as the lungs, gastrointestinal tract and heart. The second attack occurs four to seven days after the initial symptoms appear, where generally the patient is still feverish and begins to have shortness of breath, the lesions in the lungs worsen, the lymphocytes decrease. In this phase, inflammatory markers begin to increase and hypercoagulation begins. If not resolved, the next phase of inflammation becomes increasingly uncontrolled, which can lead to a cytokine storm that results in ARDS, sepsis, and other complications (J. Chen and his colleagues 2020). Strategies to reduce the number of deaths in RSAL dr. Soedibjo Sardadi, according to the Head of the RSAL and 2 doctors in charge of the Emergency Room and Covid-19, went through several stages. The initial stage is promotive, namely by providing education about the Covid 19 disease, then how to prevent it and the consequences if it is not immediately prevented. This promotive step can be shared through social media or during visits to health facilities, it can also be through the distribution of leaflets. *"The first is a promotive step, this promotional step, any hospital or any party can provide education, for example, by spreading knowledge about what COVID-19 is, what is pulmonary TB, what are the dangers, what should we do so that we can avoid these conditions, and how do they spread. There are so many ways to provide education, ranging from being able to start interactive videos, being able to use social media either from TikTok or from Instagram or from Instagram. Besides that, if we play social media, we already have it, we can combine it with the activities of the Health Center every day where there are many parents there, many children who really need to go to the Community Health Center...."*

The second step is a preventive measure such as more specific actions such as specific self-protection or by changing lifestyles or by taking immunizations (vaccines). *"The second and second is that we can take preventive actions. What is preventive action? "The second is that we can take preventive action. What's that preventive action? Preventive action is a form of prevention, besides when we have educated on the prevention, we apply it here one of them is the first you change patterns or lifestyles that are more healthier than before like not like not smoking then no drinking alcoholic beverages then the third often exercising which regularly then the fourth takes vitamins then the fifth wears a mask wears He still wears a mask even though the current*

*condition of covid is already in unequal terms first but the possibility of someone with someone getting covid disease with symptoms of falling in severe symptoms is still there then this is the most important thing i.e. washing hands with soap where washing hands with soap..."*

The next step is still in the preventive step but is of a secondary nature, namely by checking yourself early, so that you can get an early diagnosis and get early treatment as well. *"Furthermore, it is curative, it has been curative, that is, we have gone through the signs, we go to the doctor. If the symptoms are still early, we have gone to the doctor to get the right medicine and therapy. If we feel that Oh, my body is not feeling well or my body is not feeling well, so it would be better if we go to the doctor the sooner we get to the doctor..."*

We confirmed the steps mentioned above. We returned to the RSAL staff, namely midwives and pharmacists, where according to them, these steps had been taken. According to the midwife and RSAL, they have taken the steps ordered by the Head of the RSAL: *"...promotive steps are education through social media such as Instagram and Facebook and banners posted in hospitals for other things, namely teaching healthy lifestyles such as proper hand washing, correct use of masks and health protocols."*

According to the pharmacist on duty at the RSAL also said that promotive, preventive and early diagnosis steps had been carried out: *"...promotively installing banners or posters on how to wash hands using the correct masks, explanations about copying and preventive health protocols by carrying out exercise in the morning every day and dividing work hours alternately at the beginning or it was said that all hospital personnel would normally be diagnosed with WFH for antigen testing."*

## 5. Conclusion

Based on the results of the research and discussion that have been described previously, it can be concluded:

1. The deaths that occurred during the Covid-19 pandemic at RSAL dr. Soedibjo Sardadi, Jayapura City, 44 men (61.1%), and 28 women (38.9%);
2. The most deaths were at the age of > 45 years, as many as 34 people (47.2%);
3. The trend of deaths over time looks fluctuating, but it was found that in October 2020 the highest number of deaths was 15.28% and the least in December 2020 and March 2021 at 2.78% ;
4. The deaths caused by Covid-19 as many as 8 people (87.5%) and one (12.5%) suffered from Covid-19 with type 2 DM concomitant disease.

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