

CLINICAL MANIFESTATIONS IN POSITIVE COVID 19 PATIENTS WITH AND WITHOUT VACCINATED

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ABSTRACT

Introduction: With the discovery of the Covid-19 virus in 2019, among other new diseases, the World Health Organization (WHO) proclaimed a global pandemic. The development of a vaccination to lower disease and mortality rates is crucial in order to avert a large number of deaths. The aims of this study was to Finding the variations in clinical manifestations that occurred in patients with positive Covid-19 before and after immunization.

Method: This study was carried out at the Puskesmas/Clinic in Jambi City from April to October of 2022 using a cross-sectional design. Simple random sampling was used to gather 721 samples in total. Patients with Covid-19 positive medical records were chosen at random from Puskesmas, Clinics, and Hospitals that satisfied the inclusion requirements.

Results: According to the study's findings, 35.2% of the samples were between the ages of 21 and 30. 330 (45%) of the respondents were men. Fever (62.41%), coughing (50.5%), throat itching (21.63%), runny nose (44.8%), dizziness/headache (25.65%), muscle and joint pain (25.4%), nausea (13.6%), vomiting (5%), diarrhea (5.3%), fever (26.5%), chest pain (5.8%), body weakness (32.4%) anosmia (20.24%), loss of taste (13.86%), skin itching (2.35%), and other symptoms like eye and ear problems (8.8%) were among the respondents' noted symptoms in the study.

Conclusion: The clinical manifestations of patients who are positive for Covid 19 are milder in respondents who have been vaccinated compared to those who have not been vaccinated.

Keywords: Clinal Manifestation Covid-19, Vaccine

INTRODUCTION

Reports of an unknown-cause pneumonia outbreak shook the world in December 2019. China's Hubei Province is home to Wuhan, the city where this outbreak was initially discovered. The sickness was formally known as

Coronavirus sickness 2019 (Covid-19) by the World Health Organization (WHO), and the virus that caused it was identified as Severe Acute Respiratory Syndrome Coronavirus, or SARS-CoV-2².

A major concern for the sustainability of world health in the future is

the problem of non-communicable diseases. Because of their expensive therapies and protracted sickness duration, these diseases pose a substantial burden. If non-communicable illnesses are not adequately addressed, the estimated cost of controlling them could be between \$213 and \$396 billion, or around 7–13% of the global health budget¹.

Following the advent of novel illnesses, including the identification of Covid-19 in 2019, the World Health Organization (WHO) proclaimed a worldwide pandemic. Over four million people have died as a result of COVID-19 worldwide. The creation of a vaccine is crucial to addressing this epidemic since it will lower disease and death rates. It is believed that the Covid-19 vaccine will assist in changing the current global health status from pandemic to endemic.

As the virus spread over several nations, the World Health Organization (WHO) for the first time proclaimed a global pandemic on March 11, 2020. With a total of six million deaths, the Americas saw the greatest number of deaths, followed by Europe and Asia. In Indonesia, the number of confirmed cases has increased to six million, with 153.411 deaths reported since then. There have been 851 fatalities and 37.664 confirmed cases in Jambi Province. With 13.449 confirmed cases and 279 deaths, Jambi City has the largest number of illnesses. Muaro Jambi has 5.544 cases, while Batanghari has 3.718 cases.

Comprehending the pre- and post-vaccination clinical manifestations in patients is a novel topic of study in the fields of medicine and nursing. Another interesting area for investigation is nursing concerns pertaining to vaccine effectiveness.

This study's main goal is to compare the clinical symptoms and nursing concerns of Covid-19 patients before and after vaccination.

Particularly in Jambi City, this research is not very common in the Province of Jambi. The results of this study can be a useful resource for directing how the government of Jambi City, Jambi manages COVID-19.

METHOD

Cross-sectional research methodology is used in this study, which was carried out at Jambi City clinics from April to October 2022. Jambi City citizens make up the target population; a minimum sample size of 721 people is required. The medical records of Covid-19 positive patients from health centers, clinics, or hospitals that satisfy the inclusion criteria—a clear positive swab antigen or PCR test result and accessible medical records—will be chosen using simple random sampling. Patients will not be included in the trial if their medical records cannot be read.

RESULTS**Characteristics of Respondents**

About 721 samples were collected for this study, which ran from August to

October 2022 at Jambi City's main medical facility. Based on the study's findings, Table 1 displays the respondents' characteristics .

Table. 1 Age of Respondents

No	Age (years)	amount	percentage
1.	<10	35	4.85
2.	11-20	65	9
3.	21-30	254	35.2
4.	31-40	167	23.16
5.	41-50	103	14.28
6.	51-60	68	9.4
7.	61-70	23	3.19
8.	>70	6	0.8
Total		721	100

The study included respondents across all age groups, categorized into nine distinct ranges. The findings revealed that the largest proportion of the sample fell within the 21-30 age group (35.2%),

followed by the 31-40 age group (23.16%), and the 41-50 age group (14.28%). Conversely, respondents aged over 70 years constituted only 0.8%, totaling six individuals.

Table 2. Gender Of Respondents

No	Gender	amount	Percentage
1.	Male	330	45%
2.	Female	391	55%
Total		721	100%

Clinical Manifestations

Data from patient examinations and medical records were used to evaluate the

respondents' clinical manifestations. Table 3 has comprehensive results.

Table 3 Characteristics of Respondents Based on Clinical Manifestations

No	Age	Amount	Percentage
1.	Fever		
	Yes	450	37,5%
	No	271	62,4%
2.	Cough		
	Yes	357	50,48%
	No	364	49,51%
3.	Tired		
	Yes	234	32,45%
	No	487	67,5%

4.	Itchy Throat		
	Yes	156	21,6%
	No	565	78,36%
5.	Runny Nose		
	Yes	323	44,8%
	No	398	55,2%
6.	Headache		
	Yes	185	25,65%
	No	536	74,34%
7.	Myalgia		
	Yes	183	25,38%
	No	537	74,47%
8.	Nausea		
	Yes	98	13,59%
	No	623	86,4%
9.	Vomitus		
	Yes	36	5%
	No	685	95%
10.	Diarrhea		
	Yes	38	5,2%
	No	683	94,8%
11.	Dizzy		
	Yes	191	26,5%
	No	530	73,5%
12.	Chest pain		
	Yes	42	5,8%
	No	679	94,2%
13.	Anosmia		
	Yes	146	20,24%
	No	575	79,75%
14.	Dysgeusia		
	Yes	100	13,86%
	No	621	86,13%
15.	Itchy Rash		
	Yes	17	2,35%
	No	703	97,5%
16.	Others		
	Yes	64	8,8%
	No	657	91,12%
Total		721	100%

From the results of the study it was found that the percentage of respondents who experienced fever (62.41%), cough (50.5%), tired (32.4%), itching in the throat (21.63%), runny nose (44, 8%), headache (25.65%), myalgia (25.4%), nausea (13.6%), vomiting (5%), diarrhea (5.3%), fever (26.5%), chest pain (5.8%) , anosmia (20.24%), dysgeusia (13.86%), itching rash (2.35%), and other symptoms such as

disorders of the eyes, ears, etc. as much as 8.8% .

History of Vaccines

Utilizing information from patient examinations and medical records, the respondents' vaccination history was evaluated. Table 4 has comprehensive results.

The study's conclusions showed that 400

people, or 55.5%, had never had a vaccination. Just 207 individuals (28.7%) had received the vaccine's first dose, and

114 of them (15.8%) had finished both doses.

Table 4 Characteristics of Respondents Based on Vaccine History

No	Covid Vaccine History	Ammount	Percentage
1.	<i>Not Yet Vaccinated</i>	400	55,5%
2.	<i>First Vaccinated</i>	207	28,7%
3.	<i>Second Vaccinated</i>	114	15,8%
Total		721	100%

DISCUSSION

A recently discovered infectious disease, Coronavirus Disease 2019 (Covid-19), or simply Covid-19, is brought on by the SARS-CoV-2 virus. This virus belongs to the coronavirus family, which is also responsible for SARS (severe acute respiratory syndrome) and the common influenza. Numerous respiratory tract symptoms, from minor ones like fever, body aches, and cough to serious ones like shortness of breath, can be brought on by Covid-19.

The Nidovirales order's largest group is made up of coronaviruses. All viruses in this sequence are positive-sense RNA viruses that are not segmented. The families Coronaviridae, Coronavirinae subfamily, Betacoronavirus genus, and Sarbecovirus subgenus are all home to coronaviruses. SARS-CoV, 2019-nCoV (the virus that causes Covid-19), and Bat-SL-CoV are among the members of the Sarbecovirus subgenus. Initially, Bat-SL-CoV was found in a number of Chinese

provinces, including Hubei, Zhejiang, Yunnan, Guizhou, Guangxi, and Shaanxi.

Cryo-electron microscopy studies have revealed that coronaviruses are spherical particles with a diameter of about 125 nm. Four primary structural proteins are present in these virus particles: the membrane protein, the envelope protein, the nucleocapsid protein and the spike protein, which has a shape similar to a nail.⁵

Once inside, it targets organs like the heart, kidneys, lungs, and gastrointestinal tract that express the Angiotensin Converting Enzyme 2 (ACE2) receptor. SARS-CoV-2's spike protein (S protein) makes it easier for the virus to enter cells. This process requires priming of the S protein by a cellular protease known as TMPRSS2, and it depends on the virus attaching to ACE2, which is present on the surface of epithelial cells.

The receptor-binding domain of the S protein of SARS-CoV-2 and SARS-CoV has a nearly identical three-dimensional

structure. Nevertheless, compared to SARS-CoV, SARS-CoV-2 shows a greater affinity for binding to human ACE2, indicating that SARS-CoV-2 is better able to identify and infiltrate human cells.⁴

The duration of COVID-19 incubation spans from three to fourteen days. Leukocyte and lymphocyte counts usually stay normal or marginally decline during this time, and the patient may not exhibit any symptoms. Mild symptoms may start to show up as the virus travels through the bloodstream and targets organs that express ACE2. Patients may experience worsening conditions, characterized by decreased lymphocyte counts, worsening lung lesions, and shortness of breath, four to seven days after the onset of symptoms. Acute Respiratory Distress Syndrome may result if this phase continues without treatment (ARDS).

Sepsis, Acute Respiratory Distress Syndrome (ARDS), and other associated illnesses are examples of severe COVID-19 complications. Advanced age (over 70 years) and underlying medical conditions like diabetes, obesity, hypertension, and chronic obstructive pulmonary disease (COPD) are frequently linked to the severity of the disease.

Through a variety of receptors, such as RIG-I-like receptors, NOD-like receptors, and Toll-like receptors, the innate immune system reacts to viral RNA. This activation triggers the antiviral response involving CD8+ cells, Natural Killer (NK) cells, and macrophages and

results in the production of interferons (IFNs).

Other betacoronavirus infections, such as those caused by SARS-CoV and MERS-CoV, generally cause respiratory epithelial cells, dendritic cells, and macrophages to produce interferon (IFN) later and often result in rapid viral replication. This sequence is correlated with increased levels of pro-inflammatory cytokines as the illness progresses.⁴

The symptoms of a COVID-19 infection can range from mild to severe. Breathing difficulties, coughing, and fever (temperature > 38.0°C) are common clinical manifestations. In addition, patients may experience other respiratory problems, exhaustion, muscle soreness, diarrhea, and chest tightness. Within a week of the start of symptoms, about half of the patients experience dyspnea.

In extreme situations, symptoms can deteriorate quickly, setting the stage for ailments like ARDS, septic shock, difficult-to-correct metabolic acidosis, and bleeding or coagulation system dysfunction in a matter of days. It should be noted that some patients may experience mild symptoms without a fever.⁵

The majority of patients have a good prognosis; very few go on to have fatalities or serious conditions. In the mildest clinical situation, infected patients do not exhibit any symptoms.⁶

Patients may have non-specific symptoms like fever, sore throat, cough, nasal congestion, headache, fatigue, and

muscle aches in the mildest case. It's crucial to remember that older and immunocompromised people frequently present with relatively mild overall symptoms, and they may even show unusual symptoms or no fever at all. Complications such as respiratory distress, sepsis, or dehydration are rarely present in such cases.

Fever, coughing, and dyspnea are the main symptoms of COVID-19, but they do not indicate a serious case of pneumonia. Children with non-severe pneumonia may experience breathing difficulties or coughing.⁷

Patients who are adolescents or adults with fever or who appear to have respiratory infections or pneumonia should be closely watched for any further symptoms, such as breathing more quickly than thirty breaths per minute, experiencing severe respiratory distress, having low oxygen saturation (SpO₂) levels below 93% on room air, or having a PaO₂/FiO₂ ratio of less than 300.

It's critical to check for central cyanosis (bluish discoloration), SpO₂ levels below 90%, severe respiratory distress (such as audible snoring, significant chest indrawing), and other pneumonia-related symptoms like chest wall indrawing in pediatric patients who

present with coughing or difficulty breathing. It's also important to take into account certain respiratory rate thresholds: children ages 1–5 years old with 40 breaths per minute or more, children over 5 years old with 30 breaths per minute or more, infants under 2 months old with a rate of 60 breaths per minute or more, and infants aged 2–11 months with 50 breaths per minute or more.⁶

Nursing problems, which represent how patients react to medical situations or everyday life events, are essential to nursing diagnoses. In order to guarantee uniformity, precision, and clarity in nursing diagnoses, the Indonesian Nursing Diagnosis Standard (IDHS) offers standardized terminology in Indonesia. The goal of this standardization is to avoid decision-making errors and disparities in the nursing care given to patients⁹.

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