



Evaluation Study: Epidemiological Trends of COVID 19

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Abstract

Coronavirus Disease or COVID-19 is still a concern around the world. After additional examination, it was viewed that as a new strain of Covid was the reason. There is still a lot of controversy surrounding this disease, including aspects of diagnosis, treatment, and prevention. Therefore, we conducted a review of studies related to COVID-19 which have been widely published from early 2020 to the end of March 2020. Until now, definitive treatment for COVID-19 has not been found, patients with COVID-19 are only given supportive therapy. The method used in this research is a literature study, which is a study whose research object is in the form of library works, either in the form of scientific journals, books, articles in the mass media, as well as statistical data so as to describe the epidemiological trend of COVID 19. The purpose of writing this article is to knowing the distribution trend of COVID-19, which is still a pandemic issue.

Keywords Epidemiological, Trends, Covid-19

INTRODUCTION

At the beginning of 2020 the world was shocked by a disease that caused death with such easy transmission, namely through skin contact and respiratory tract. This disease is caused by a virus called corona, this type of virus is a new version of a collection of viruses that can infect the respiratory system and cause death. Historically, the corona virus was first identified as causing the common cold in 1960¹. The World Health Organization (WHO) in 2020 translated the corona virus as a virus that will cause the common cold to more severe illnesses such as Middle East Respiratory Syndrome (MERS-CoV) and Severe acute respiratory syndrome (SARSCoV)².

From December 31, 2019 to January 3, 2020, this case increased rapidly, marked by the reported 44 cases. In less than a month, the disease has spread to other provinces in China, Thailand, Japan and South Korea. The sample under study shows the etiology of the new coronavirus. Initially, this disease was temporarily named as 2019 novel coronavirus (2019-nCoV), then WHO announced a new name on February 11, 2020, namely Coronavirus Disease (COVID-19) caused by the Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2) virus.)³. The virus can be passed from person to person and has spread widely in China and more than 190 other countries and territories. On March 12, 2020, WHO declared COVID-19 a pandemic. 6 As of March 29, 2020, there were 634,835 cases and 33,106 deaths worldwide. Meanwhile in Indonesia, 1,528 cases have been confirmed positive for COVID-19 and 136 deaths⁴.

One of the important issues facing Indonesia, which has attracted the attention of other countries¹ as well as international organizations, is the limited information regarding COVID-19 sufferers as well as data on actual fatalities. This situation may be caused by several things. First, the limited capacity of relevant institutions in gathering important and



relevant information gives the impression that the government is not transparent in providing information related to COVID-19. Furthermore, with the rapid development of the spread of the virus, this limitation seems to worsen the synchronization of data collected between the central and local governments⁵. Second, the lack of a number of tests related to the limitations of the lab and test-kits causes information about the infection rate and spread of COVID-19 to be incomplete. Both of these have serious implications for understanding the situation of the spread of COVID-19. In a rapidly spreading pandemic situation, information, especially related to the epidemiological characteristics of the disease, is the key to non-medical health interventions⁶.

Corona virus is part of a family of viruses that cause disease in animals as well as in humans. In Indonesia, the first case of COVID-19 appeared in March 2020. Since then, the spread of COVID-19 has been increasingly widespread until now. Currently, the number of positive COVID-19 cases in Indonesia has reached 4.07 million people with the death toll reaching 132,000⁷. In Indonesia, still fighting the Corona Virus until now, as well as in other countries. The number of Corona Virus cases continues to grow with some reporting recoveries, but not a few who have died. Handling and prevention efforts continue to be carried out to fight COVID-19 with flu-like symptoms⁸.

The case began with pneumonia or mysterious pneumonia in December 2019. Cases of this mysterious pneumonia infection were indeed found in many of these animal markets. The Corona virus or COVID-19 is thought to be carried by bats and other animals that are eaten by humans until transmission occurs. Coronavirus is actually no stranger to the world of animal health, but only a few types are capable of infecting humans to become pneumonia. This case is suspected to be related to the Huanan animal market in Wuhan, which sells various types of animal meat, including those that are not commonly consumed such as snakes, bats, and various types of rats. With this background, the Corona Virus is not the only time that the world's citizens are panicking. Having the same symptoms as the flu, the Corona Virus grows rapidly to cause a more severe infection and organ failure⁹.

The very fast transmission of COVID-19 has a very broad impact on all people from countries around the world. Until now there is no vaccine or definite treatment for COVID-19, various public health interventions (non-pharmaceutical) have been used to control the spread of COVID-19. According to the WHO, preventive measures that can be taken are washing hands with soap or hand sanitizer, not touching the face area and wearing a mask¹⁰. The virus is spread mainly through droplets of saliva or out of the nose when an infected person coughs or sneezes, so it is important for everyone to practice cough etiquette by coughing into a bent elbow or with a tissue and throwing the residue in the trash and washing hands¹¹.

Based on the reviews that have been described, this literature review aims to find out the latest updates on epidemiology, virology, transmission, clinical symptoms, diagnosis, treatment, risk factors and prevention of COVID-19. This literature review is said to be necessary to collect the latest information about COVID-19 to make it easier for researchers and readers to conduct other research studies.



METHOD

The method used in this research is a literature study, which is a study whose research object is in the form of library works, either in the form of scientific journals, books, articles in the mass media, as well as statistical data so as to describe the epidemiological trend of COVID 19. The literature will be used as a reference. references in this article related to the distribution of COVID 19. This study aims to build and construct a stronger conception based on empirical studies that have been carried out.

RESULTS AND DISCUSSION

Spread of COVID 19

As we know, the development of the spread of COVID-19 is happening so fast. The first and second cases of COVID-19 were announced by the Central Government on March 2, 2020, and the third and fourth cases were announced on March 6, 2020. Meanwhile, Presidential Decree (Keppres) No. 7/2020 concerning the formation of a Rapid-Response Team led by the Head of the National Disaster Management Agency (BNPB) was only issued on March 13, 2020, when the number of positive COVID-19 patients in Indonesia was recorded at 69 people ¹². The Head of BNPB further announced COVID-19 as a non-natural emergency⁶, on the same day that the Minister of Transportation Budi Karya was announced to have contracted COVID-19 on March 14, 2020⁷, when the number of positive COVID-19 patients in Indonesia was recorded as 96 people. The following day, the President and all members of the cabinet underwent a test, on the day when the number of positive corona patients in Indonesia had increased to 117 people ¹³.

The first and second cases in Indonesia were participants at a dance club event in Jakarta. Both were suspected of contracting COVID-19 from a foreign national participating in the club event who was found positive for COVID-19 abroad after attending the event. The Health Service and Police did a tracing and found that at least 80 people were exposed to the first and second patients in the event. After testing, two people tested positive for the corona, then became the third and fourth cases. It was later discovered that the fifth case was still related to the Jakarta cluster/dance club ¹⁴.

After the fifth case, imported cases began to be found, such as in the sixth case, which was an Indonesian crew member (ABK) from the Diamond Princess cruise ship who was previously quarantined for 14 days in Japan because the passengers were positive for COVID-19 ¹⁵. At that time, many other imported cases began to be found, from Indonesian citizens who had returned from traveling abroad. What seemed simple in the initial five cases, it was discovered later that it was only the tip of the iceberg as the growth of new cases moved exponentially. Epidemiology of COVID-19 was declared a global pandemic on March 11, 2020 by WHO. It was first reported in the Chinese city of Wuhan, then in less than a year it has spread to all countries in the world ¹⁶.

Global

The first case of COVID-19 was discovered in December 2019 in Wuhan, China. After that, the SARS-Cov-2 virus spread to all parts of China within a few weeks, and to



other countries within a few months. As of July 2021, COVID-19 has been found in 216 countries, with a total of more than 190,000,000 confirmed cases. The United States is the country with the most COVID-19 cases, with more than 33,000,000 cumulative cases. This is followed by India with around 31,000,000 cases and Brazil with around 19,000,000 cases¹⁷.

Indonesia

The first confirmed case of COVID-19 in Indonesia was reported on March 2, 2020, with 2 patients. Until July 2021, COVID-19 in Indonesia has approached 3,000,000 confirmed cases and is ranked 14th in the cumulative total of COVID-19 cases in the world¹⁸.

Mortality

Death from COVID-19 can be associated with acute respiratory distress syndrome (ARDS) or septic shock. As of July 2021, the global mortality due to COVID-19 is more than 4,000,000. The case fatality rate (CFR) of COVID-19 in the world is 2.15%. However, mortality in the pediatric population is reported to be lower. Meanwhile in Indonesia, the death toll from COVID-19 in July 2021 was around 76,000 cases. So that the CFR of COVID-19 in Indonesia is higher than the world, which is 2.58%¹⁹.

Corona Virus Symptoms

Early symptoms of Corona virus infection or COVID-19 can resemble flu symptoms, namely fever, runny nose, dry cough, sore throat, and headache. After that, the symptoms may disappear and heal or even get worse. Patients with severe symptoms may experience high fever, cough with phlegm and even blood, shortness of breath, and chest pain. These symptoms appear when the body reacts to the Corona virus. In general, there are 3 general symptoms that can indicate a person is infected with the Corona virus, namely: 1. Fever (body temperature above 38 degrees Celsius) 2. Dry cough 3. Shortness of breath There are several other symptoms that can also appear in Corona virus infection although less frequently, namely: a. diarrhea b. Headache c. Conjunctivitis d. Loss of ability to taste or smell e. Rash on the skin These symptoms of COVID-19 generally appear within 2 days to 2 weeks after the patient is exposed to the Corona virus²⁰.

Causes of Corona Virus Infection

Coronavirus infection is caused by the corona virus itself. Most corona viruses spread like other viruses in general, such as: 1. Splashes of the sufferer's saliva (coughing and sneezing). 2. Touching the hands or face of an infected person. 3. Touching the eyes, nose, or mouth after handling items that have been splashed by the saliva of a person with the corona virus. 4. Feces or feces (rare) Especially for COVID-19, the incubation period is not known for certain. However, the average symptom that appears after 2-14 days after the first virus enters the body. In addition, the method of transmission of COVID-19 is also not known with certainty. Initially, the COVID-19 type of corona virus was thought to have



originated from animals. The COVID-19 coronavirus is a virus that circulates in several animals, including camels, cats and bats ²¹.

Transmission of COVID-19 transmission is divided into several types, including the following: a. Contacts and droplets Transmission of COVID-19 occurs through direct, indirect or close contact with people infected with COVID-19 through saliva and droplets that come out of people with COVID-19 when talking, singing, coughing and other activities. Transmission through droplets can occur at a distance of approximately 1 meter (WHO, 2020). b. Airborne transmission is defined as an infectious agent caused by the spread of droplets that float and are still in an infectious state and can move far (WHO, 2020). c. Fomit is transmission caused by contamination of surfaces and objects exposed to droplets from people infected with COVID-19 (WHO, 2020) ²².

Risk factor

Based on the research conducted, comorbid hypertension, diabetes mellitus, male gender and smoking are risk factors for COVID-19. Patients with male sex are thought to be due to the high prevalence of smoking in men (Cai, 2020). Other vulnerabilities also occur in cancer patients and chronic liver disease. Cancer is associated with immunosuppressive reactions, while chronic liver disease has a decreased immune response, increasing the risk of contracting COVID-19 ²³.

Prevention

WHO issued the following recommendations for preventing COVID-19 (WHO, 2019): a. Diligently wash your hands with alcohol as well as soap and water to kill the virus b. Maintain a distance of 1 meter from other people c. Avoid crowded places and allow contact with other people d. Do not touch eyes, nose and mouth directly before cleaning hands e. Stay at home to avoid contact with other people f. If you experience the general symptoms of COVID-19, seek medical help immediately. g. Always access verifiable and reliable information regarding COVID-19. Cases of infection with the Corona virus or COVID-19 that are still endemic can be prevented in a simple way. Here are four ways to prevent the Corona virus or COVID-19 ²⁴.

CONCLUSION

COVID-19 is a new type of disease with high transmission and can cause severe effects and even death. So that much further research is needed to clarify all aspects of this disease.

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