

Impact of the COVID-19 Pandemic in Various Fields: A Literature Review

Bersellynica Azarine Azzahra¹, Asra Al Fauzi^{2*}, Muhammad Faizi³, Mia Ratwita⁴

¹Faculty of Medicine, Universitas Airlangga, Surabaya, Indonesia

²Department of Neurosurgery, Faculty of Medicine/Dr. Soetomo General Academic Hospital, Universitas Airlangga, Surabaya, Indonesia

^{3,4}Department of Pediatrics, Faculty of Medicine/Dr. Soetomo General Academic Hospital, Universitas Airlangga, Surabaya, Indonesia

Abstract

Corona Virus Disease (COVID-19) is a virus-borne infection caused by the SARS-CoV-2 viral. Most patients infected with the virus will have mild to severe respiratory disease and will recover without needing any special treatment. However, some people will get serious illnesses and need to visit a doctor. Older adults and those with underlying medical conditions, such as cardiovascular disease, diabetes, chronic respiratory disease, or cancer, are more prone to develop severe illness. COVID-19 can cause anyone to get very ill or die at any age. The emergence of the COVID-19 pandemic has caused a lot of problems in various fields, such as from health, socio-economy, education, even tourism.

Keywords: Impact, Pandemic, COVID-19

1. Introduction

Coronavirus disease (COVID-19) is a virus-borne infection caused by the SARS-CoV-2 virus [1]. Coronavirus is a virus that can cause disease in humans as well as animals. In humans, it causes infectious diseases of the respiratory tract, which can range from the flu to other severe diseases such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS) [2]. Most patients infected with the virus will experience mild to severe respiratory illness and will recover without requiring special treatment. However, some people will get a serious illness and need to see a doctor. Older adults and those with underlying medical conditions such as cardiovascular disease, diabetes, chronic respiratory disease, or cancer are more susceptible to severe illness. COVID-19 can cause anyone to become very sick or die at any age [1].

Because coronavirus spreads by airborne transmission, investigating events that might suspend the virus in the air is critical. Coughing, sneezing, laughing, wet talking, etc. might spread the virus in the surrounding air from a potentially infected person's exhaled breath [3]. COVID-19 (Coronavirus) has had an impact on daily life and is affecting the global economy. This pandemic has affected thousands of individuals, who are either sick or dying because of the disease's spread [4]. All throughout the world, schools were shuttered to stop the virus's spread. In the first year of the epidemic, school closures had an impact on nearly half of the world's kids. Millions of girls may not be returning at all in some nations, placing them at danger for teenage pregnancies,

child marriage, and abuse [5]. The cause of this disease has an impact on many businesses and sectors, including medicines, solar energy, tourism, and the information and technology industries. This virus has substantial negative consequences on both the global economy and individuals' daily lives [4].

2. Etiology of COVID-19

Taking the world by storm in early 2020, the first case of COVID-19 in Wuhan was discovered in late December 2019 and has already infected more than 70 countries. The virus is the third coronavirus pneumonia in the last 20 years in the world. In November 2002, the novel beta coronavirus known as *severe acute respiratory syndrome coronavirus* (SARS-CoV) was first discovered in Guangdong, China and has infected more than 8000 people, dying 774 in 37 countries. In 2012, the *Middle East Respiratory Syndrome Coronavirus* (MERS-CoV) was first discovered in Saudi Arabia and has infected 2,494 individuals and caused 858 fatalities [6]. In Wuhan, China, a new type of coronavirus was discovered in humans and caused an extraordinary event in December 2019, which was later named Severe Acute Coronavirus Disease 2019 (SARS-CoV-2) and caused the disease Coronavirus Disease (COVID-19) [2].

The World Health Organization (WHO) declared the novel coronavirus (COVID-19) a pandemic on 11 March 2020[7]. To date there have been 645,084,824 positive confirmed cases of COVID-19, and 6,633,118 deaths from COVID-19 in the world[8]. Initially, the possibility of spreading the coronavirus was zoonotic, where the virus originated in animals and was transmitted to humans. However, further data developments show that the spread of the COVID-19 virus is through human-to-human transmission in proximity (approximately 6 steps) through droplets [9]. That means, a person can become infected from a person with COVID-19 through small droplets (droplets) from the nose or mouth when coughing or sneezing. The droplets can fall on objects, which are then touched by others.

3. How SARS-CoV-2 is Transmitted and Spread

SARS-CoV-2 can spread directly (through droplets and human-to-human transmission) as well as indirectly (through touch) (contaminated objects and airborne contagion). Personal protective equipment (PPE) may potentially contribute to the spread of airborne diseases. As previously stated, SARS-CoV-2 is thought to transmit mostly by respiratory droplets produced when a patient coughs, sneezes, speaks, or even sings [10]. Initially, the possibility of spreading the coronavirus was zoonotic, where the virus originated in animals and was transmitted to humans. However, further data developments show that the spread of the COVID-19 virus is through human-to-human transmission in proximity (approximately 6 steps) through droplets [9].

According to epidemiological statistics, the most prevalent method of transmission is by droplets released during face-to-face contact when speaking, coughing, or sneezing. While brief exposures to contacts who are asymptomatic are less likely to result in transmission, prolonged exposure to an infected person (being within 6 feet for at least 15 minutes) and shorter exposures to those who are symptomatic (e.g., coughing) are linked to greater risk for transmission. Another potential form of transmission is contact surface spread, which involves contacting a surface that has the virus on it. Aerosols (smaller droplets that stay suspended in the air) may possibly be a route of transmission, although it is unknown if this is a substantial cause of infection in people outside of a laboratory environment. Aerosols in physiological states (such as coughing) or the presence of nucleic acid in the atmosphere do not always indicate that tiny airborne particles are contagious. Currently, it is thought that there is little danger of vertical transfer when a mother has COVID-19. In most documented cases, the mothers had SARS-CoV-2 during the third trimester of pregnancy, and there were no maternal fatalities or adverse neonatal outcomes [11].

4. Impact of the COVID-19 Pandemic in Various Fields

The COVID-19 pandemic in Indonesia was first announced on March 2, 2020, which has then spread widely until now. The current pandemic condition has serious impacts on Indonesia, such as on the health, economic, and social order. This can happen because of the implementation of social/physical distancing and Large-Scale Social Restrictions (PSBB) as health protocols to overcome COVID-19 [12].

PSBB is the implementation of restrictions on the implementation of public places and home quarantine, which strictly prohibits people from leaving the house except in important or emergency circumstances. The purpose of the PSBB itself is to prevent the spread of the COVID-19 virus which is rapidly expanding currently. Activity restrictions include the closure of schools and workplaces, restrictions on religious activities, and other activities in public places. There are many negative impacts of this PSBB, such as stagnation, and the demise of many industries/sectors, as well as livelihoods [13]. Many fields have been affected due to COVID-19 and the implementation of PSBB in Indonesia, such as health, socio-economic, education, tourism, and others [14]. Of the many sectors, the most affected are tourism and public transport [13].

4.1. Impact of the COVID-19 Pandemic on the Health Sector

Hospitals are the main guard in handling COVID-19 cases. The disease, which was first discovered in 2019 in Wuhan, China [15] has had a very negative impact on the health sector. Initially, people nearby can contract the virus by coughing or sneezing droplets into the air, which they can then inhale through their noses, mouths, or eyes. The virus particles in these droplets soon go to the mucous membranes at the back of your throat and nasal passages, where they begin to adhere to a specific cell receptor [16]. The reason is that the SARS-CoV-2 virus attacks the upper respiratory tract (sinuses, nose, and throat) or the lower respiratory tract (throat and lungs) [17].

The influence of the COVID-19 pandemic in the health sector is that the level of health decreases because many are exposed to covid-19 and many people are stressed because they are worried and afraid of contracting the corona virus, which makes the immune system decrease. In addition, many health workers have fallen due to this pandemic due to the factor of contracting the covid-19 virus and the fatigue factor due to the increasing number of patients, until Monday, September 27, 2020, as many as 101 health workers who handled covid-19 patients died [18].

The high rate of spread of this virus, causing a sense of anxiety and public concern is increasing in various regions. In addition, there are also inappropriate discriminations and restrictions in society. For example, someone who lives in Taiwan is afraid to interact with someone who lives in Hong Kong. Whereas Hongkongers are afraid to interact with China [19].

In those patients who have chronic diseases and must come to the hospital for control, they also experience anxiety to come to the hospital. The results of a study conducted in Turkey showed that 56.8% of patients with chronic diseases stated that they would go to the hospital in an emergency only, while 28.3% stated that they did not want to go to the hospital. As many as 50% of patients stated that they did not want to go to the hospital under any circumstances during the pandemic. The level of anxiety and depression has increased due to the COVID-19 pandemic in patients with chronic diseases [20].

4.2. Impact of the COVID-19 Pandemic on the Socio-Economy Sector

The COVID-19 pandemic caused many outlets or small shops and companies to close during the COVID-19 pandemic, causing massive layoffs [21]. The Covid-19 pandemic that has hit the world has significantly affected people's economic life patterns, starting from the income received, spending patterns for daily life,

employment, and shopping habits dominated by shopping for food and daily life as well as the new habit of shopping online [22].

The economic slowdown occurred in Indonesia due to the impact of the COVID-19 pandemic, which occurred in the first quarter of 2020 by 1.01% when compared to the fourth quarter of 2019 [12][12]. In Singapore, the importance of the services sector to Singapore's economy is demonstrated by the growing share of exports of services. Singapore's services exports growth was strong prior to the start of the COVID-19 pandemic in 2020, averaging 8.9% annually between 2010 and 2019. Notably, during this time, the development of exports of goods has constantly lagged behind that of services. As a consequence, from around 28.7% of the value of merchandise exports in 2011 to roughly 55.2% by 2019, the value of services exports increased rapidly. However, the COVID-19 pandemic caused a 1.6% decline in services exports in 2020, which then saw a 6.7% increase in 2021 [23].

At the beginning of 2020 before the pandemic occurred, various parties still saw that 2020 was a year of global economic recovery. The IMF even predicts the World to grow 3.3%, higher than global economic growth in 2019 which reached 2.9%. Although still very vulnerable to various economic dynamics such as falling productivity, protectionism, and trade wars, no one expected an economic storm to come and occur due to health issues. Covid-19 has drastically changed the socioeconomic face of the world and changed the direction of the global economy, which was originally optimistic about improving, towards recession. The economic turmoil caused by the pandemic has been illustrated in the data on the realization of economic growth of countries in the world in the first quarter of 2020. China, for example, as a country that has been dealing with Covid-19 since the beginning of the year, recorded negative economic growth of 6.8% in the first quarter of 2020, although it was finally able to recover quickly and maintain growth for the whole of 2020. Only a few countries were still able to achieve positive economic growth in the first quarter of 2020, and even that was at a much lower rate than before. Indonesia, Vietnam, and the US are some of the countries in that category [24].

The increasingly massive spread of Covid-19 accompanied by tighter efforts to suppress its spread made the economy worse, even in the 2nd quarter of 2020 it was even worse and became the deepest point throughout the pandemic. Some countries could not avoid the precipice of recession with negative growth records in two consecutive quarters, such as European countries, Singapore, Hong Kong, the Philippines, and Mexico. Countries *that carry out* stricter lockdowns and with longer durations tend to experience deeper contraction pressures [24].

4.3. Impact of the COVID-19 Pandemic on the Education Sector

Due to the Covid-19 pandemic, 31,851 schools in Cameroon were forced to close, blocking more than 7,000,000 kids access to an education. All 6,379 schools (3,692 in NW and 2,687 in SW) and around 4,200 community learning centres (2,436 in NW and 1,764 in SW) in the Northwest and Southwest (NWSW) have been temporarily shuttered as of March 18, 2020, to control the spread of the Covid-19 epidemic [25].

The impact of the COVID-19 pandemic is also felt on education, namely teaching, and learning activities in Indonesia. Most of the teaching and learning activities have been able to run well, but there are still shortcomings in implementing Distance Learning during the pandemic. There are obstacles such as difficulty adapting to mastery of technology by teachers and students, limited facilities and infrastructure, and inadequate internet access [26].

Due to the pandemic, almost all schools, colleges, and universities throughout the world decided to postpone or cancel all student events as well as campus meetings to reduce viral transmission. Even so, there are some advantages to taking classes or studying online. Weaker students can review the videos that their teachers have given them, as well as look for similar videos on YouTube and understand the idea at home. A student has control over the speed, timing, and location of their education. Online education offers a fantastic option for

self-study because there is no idea of back benches, and all students have front row seats. Because they must do many of their tasks on computers or laptops alone, students gain new computer skills. Additionally, because online instruction has no time restrictions and no physical classroom boundaries, students can assess what they are learning more effectively [27].

4.4. Impact of the COVID-19 Pandemic on the Tourism Sector

Several countries decided to impose a lockdown system due to the COVID-19 pandemic, to break and accelerate the chain of spread of the virus. As a result, countries that have dependence on exports and the tourism sector have also been significantly affected by the pandemic, such as Indonesia (Bali), Singapore, Mexico, and Spain [28]. Whereas, before to COVID-19, travel and tourism had grown to be one of the most significant economic sectors in the world, contributing 10% to the global GDP and supporting more than 320 million jobs. The economic impact is not restricted to the most tourism-dependent countries. In the United States, by August, one out of every six employments had disappeared in Hawaii. Officials in Florida, where up to 15% of the state's revenue comes from tourism, said that it may take the sector up to three years to recover [29].

5. Conclusions

The COVID-19 pandemic has hit the world for approximately 2 years. Taking the world by storm at the end of 2019, until the end of 2022, the covid-19 pandemic is not completely over, although COVID-19 cases continue to decline. Its rapid spread and high mortality rate have forced almost all countries in the world to quickly adapt to this pandemic. Positive, and negative, and anxiety impacts are also felt by the world, especially Indonesia in various sectors, such as the health, socio-economic, education, and tourism sectors.

References

- [1] World Health Organization. Coronavirus disease (COVID-19). *who.int*.
- [2] Kementerian Kesehatan Republik Indonesia. FAQ: Frequently Asked Question COVID-19. *kemkes.go.id*.
- [3] Agrawal A, Bhardwaj R. Probability of COVID-19 infection by cough of a normal person and a super-spreader. *Physics of Fluids*; 33. Epub ahead of print 2021. DOI: 10.1063/5.0041596.
- [4] Haleem A, Javaid M, Vaishya R. Effects of COVID-19 pandemic in daily life. *Current Medicine Research and Practice* 2020; 10: 78–79.
- [5] Vivier D, Beeld, Gallo. From equality to global poverty: the Covid-19 effects on societies and economies. *wellcome.org*.
- [6] Ge H, Wang X, Yuan X, et al. The epidemiology and clinical information about COVID-19. *European Journal of Clinical Microbiology and Infectious Diseases* 2020; 39: 1011–1019.
- [7] Cucinotta D, Vanelli M. WHO declares COVID-19 a pandemic. *Acta Biomedica* 2020; 91: 157–160.
- [8] World Health Organization. Coronavirus disease (COVID-19) pandemic. *who.int*, <https://www.who.int/emergencies/diseases/novel-coronavirus-2019> (2022, accessed 13 December 2022).
- [9] Yunus F, Nawas AM. *Jurnal Respiriologi Indonesia*. Jakarta Timur: Perhimpunan Dokter Paru Indonesia (PDPI), 2020.
- [10] Tfi MR, Hamblin MR, Rezaei N. Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID- 19 . The COVID-19 resource centre is hosted on Elsevier Connect , the company ' s public news and information. *Clinica Chimica Acta* 2020; 508: 254–266.
- [11] Wiersinga WJ, Rhodes A, Cheng AC, et al. Pathophysiology, Transmission, Diagnosis, and Treatment of Coronavirus Disease 2019 (COVID-19): A Review. *JAMA - Journal of the American Medical Association* 2020; 324: 782–793.
- [12] Chairani I, Pusat B, Papua SP. *Jurnal Kependudukan Indonesia | Edisi Khusus Demografi dan COVID-19*. 2020.
- [13] Iskar IWP, Akbar AF, Dozan W, et al. Dampak Penerapan Pembatasan Sosial Berskala Besar (Psbb) Terhadap Penghidupan Pekerja Sektor Informal Di Provinsi Dki Jakarta. *Jurnal Pemerintahan Dan Keamanan Publik (JP dan KP)* 2021; 3: 68–79.
- [14] Virby S. TAK PANDANG BULU, DAMPAK COVID-19 BERIMBAS DI BERBAGAI SEKTOR. *lppm.unpam.ac.id*.
- [15] Dewi IR. 2 Tahun Jadi Misteri, Inikah Asal Mula Covid yang Sebenarnya? *CNBC Indonesia*.
- [16] Belluck P. What Does the Coronavirus Do to the Body? *The New York Times*.

- [17] Nazario B. Coronavirus and COVID-19: What You Should Know. *Web MD*.
- [18] Fadhilah AN. Dampak Covid-19 dalam Bidang Kesehatan. *ners.unair.ac.id*.
- [19] Lin C-Y. Social reaction toward the 2019 novel coronavirus (COVID-19). *Social Health and Behavior* 2020; 3: 1.
- [20] Kaya Y, Bostan S, Kaya A, et al. Effect of COVID-19 pandemic on anxiety depression and intention to go to hospital in chronic patients. *International Journal of Clinical Practice* 2021; 75: 1–8.
- [21] Muhtarom H. DAMPAK PANDEMI COVID-19 DALAM KEHIDUPAN SOSIAL-EKONOMI MASYARAKAT STUDI KASUS KEHIDUPAN SOSIAL-EKONOMI MASYARAKAT PANDEGLANG BANTEN. *HUMANIS: Jurnal Ilmu-Ilmu Sosial dan Humaniora*; 13. Epub ahead of print 31 January 2021. DOI: 10.52166/humanis.v13i1.2189.
- [22] Sayuti RH, Hidayati SA. Dampak Pandemi Covid-19 Terhadap Ekonomi Masyarakat di Nusa Tenggara Barat. *RESIPROKAL: Jurnal Riset Sosiologi Progresif Aktual* 2020; 2: 133–150.
- [23] Ministry of Trade and Industry in Singapore. IMPACT OF THE COVID-19 PANDEMIC ON SINGAPORE ' S SERVICES EXPORTS. 2022; 20–26.
- [24] Kementerian Keuangan Republik Indonesia. Pengaruh Covid-19 Atas Kondisi Sosial Ekonomi Global 2020. *pen.kemenkeu.go.id*.
- [25] Munas Kalden. Covid-19: impact on education in the nws of cameroon, april 2020. 2020; 1–3.
- [26] Amalia A, Sa'adah N. Dampak Wabah Covid-19 Terhadap Kegiatan Belajar Mengajar Di Indonesia. *Jurnal Psikologi* 2020; 13: 214–225.
- [27] Firdaus S, Yaseen M, Joshi SS. Positive impact of Covid-19 on Education. *International Research Journal on Advanced Science Hub* 2021; 03: 182–185.
- [28] Ritcher F. COVID-19: These countries are most at risk from falling tourism. *weforum.org*.
- [29] Behsudi A. Wish you were here tourism-dependent economies are among those harmed the most by the pandemic. *Finance and Development* 2020; 57: 36–39.