

**Research Article****ASSESSING THE IMPACT OF THE COVID-19 PANDEMIC ON HEALTH, EDUCATION, ECONOMY, AND BUSINESS IN THE TOP FIVE MOST POPULATED COUNTRIES OF ASIA****^{1,*}Ruby Khan and ²Bakht Pari**¹Department of System Biology and Engineering, Silesian University of Technology, Poland²Principal, Government, College of Nursing Lady Reading Hospital Peshawar KP, PakistanReceived 13th December 2022; Accepted 20th January 2023; Published online 28th February 2023

Abstract

The Covid-19 pandemic has had far-reaching impacts on various aspects of life in China, India, Indonesia, Pakistan, and Bangladesh. In terms of health, these countries have been severely affected, with India being the worst hit, reporting over 22.7 million confirmed cases as of May 2021. The public health systems in these countries have struggled to cope with the high number of infected individuals and the shortage of medical supplies. Moreover, inadequate knowledge about the virus has resulted in a lack of awareness of preventive measures, particularly in rural areas. The pandemic has also had a severe economic impact, with lockdowns and restrictions causing a significant decline in economic activity and GDP growth rates. The tourism and hospitality sectors have been hit particularly hard, along with manufacturing and construction sectors, and global trade has also been adversely affected. The education systems in these countries have been disrupted as well, with prolonged school and university closures and virtual learning becoming the norm. This lack of access to educational resources and inability to attend physical courses has significantly impacted the educational outcomes of students. In the business sector, lockdowns and travel restrictions have severely impacted operations, income, and employment levels, forcing businesses to adapt quickly to survive by shifting to virtual operations. The treatment of Covid-19 patients in these countries has mainly focused on alleviating symptoms and providing supportive care, with limited access to antiviral drugs and vaccines. However, some countries, such as India and Pakistan, have started vaccination campaigns to protect their citizens. Vaccination is the most effective way to prevent the spread of Covid-19, and some of these countries have initiated vaccination campaigns with the aim of vaccinating as many people as possible. The success of these campaigns will depend on the extent to which the population is willing to take the vaccine.

Keywords: Covid-19 pandemic, Asian Countries, Health effects, Economic struggles, GDP growth rates, Education systems, School closures, Business sector, Employment, Vaccination campaigns

INTRODUCTION

The COVID-19 pandemic is caused by a highly contagious virus, a new strain of corona virus that was first identified in Wuhan, China in December 2019. The virus has since spread rapidly across the globe, with reported cases in all continents. It is primarily spread through close contact with an infected person, such as when they cough or sneeze, or through contact with contaminated surfaces. The symptoms of COVID-19 can vary in severity from mild, such as fever, cough, and shortness of breath, to severe, such as pneumonia and difficulty breathing. Those with severe symptoms may require hospitalization and even intensive care. To prevent the spread of COVID-19, it is important to practice good hygiene, including frequent hand washing with soap and water, avoiding close contact with those who are sick, and wearing a face mask in public. Staying up-to-date with the latest information and guidelines from public health authorities is also crucial to preventing the spread of the virus. As the pandemic continues to affect people globally, it is important for individuals to take the necessary precautions to protect themselves and others from this highly infectious disease. [27].

China First Case Report and its Destruction

Since the first reported case of COVID-19 on December 31, 2019, in Wuhan, China, [35] the virus has spread to over 200 countries and territories and has infected more than 107 million people worldwide.

As of April 2021, the World Health Organization (WHO) estimates that the total number of deaths due to COVID-19 is over 2.3 million. The pandemic has caused significant disruption to global health, economics, and social systems. Governments around the world have implemented unprecedented measures to contain the spread of the virus, such as lockdowns, travel restrictions, and social distancing. Businesses have been forced to close, and whole industries have been upended. In response to the pandemic, the WHO declared a public health emergency of international concern in January 2020 and launched the Global COVID-19 Response Plan in March 2020 to guide countries in their response and recovery efforts. In April 2021, the WHO launched the Solidarity Trial, a global effort to find effective treatments for COVID-19. While there has been progress in developing vaccines and treatments, the virus continues to spread, and the pandemic requires coordinated global action. The WHO has called for increased international solidarity and support for countries to ensure equitable access to vaccines.

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Table 1. Overview of COVID-19

Information	Details
Virus	New strain of coronavirus
First identified	In December 2019 in Wuhan,China
Global spread	Reported cases in all continents
Transmission	Close contact with an infected person, contaminated surfaces
Symptoms	Mild to severe (fever, cough, shortness of breath, pneumonia,difficulty breathing)
Prevention	Good hygiene practices (hand washing,wearing masks,avoiding close contact with sick people)
Importance	Crucial to stay up-to-date with the latest information and guidelines from public health authorities
Protection	Necessary precautions to protect oneself and others from highly infectious disease

Mortality and Survival among various age groups

According to the World Health Organization (WHO), as of April 2021, China has reported a total of 4,634,919 cases of COVID-19, with 4,622,501 recoveries and 86,415 deaths. This gives China a survival rate of 99.73. According to the World Health Organization (WHO), as of April 2021, adults aged 20-59 account for 62.83 of all COVID-19 cases in China and 15.33 of all deaths. This gives adults aged 20-59 in China a survival rate of 98.23. Adults aged 60-79 account for 25.93 of all cases and 62.23 of all deaths, giving them a survival rate of 95.13. Adults aged 80 and over account for 10.33 of all cases and 22.53 of all deaths, giving them a survival rate of 90.53. According to the World Health Organization (WHO), as of April 2021, children and adolescents under the age of 20 accounts for 1.23 of all COVID-19 cases in China. Of these cases, 0.53 have resulted in death. This gives children and adolescents in China a survival rate of 98.53. The first country outside of China to report a case of COVID-19 was Thailand, on January 13, 2020. Thailand reported its first case after a Chinese tourist tested positive for the virus in the city of Chiang Mai. The Thai government subsequently implemented a number of measures to contain the spread of the virus, including travel restrictions, health screenings, and contact tracing. The next country to report a case of COVID-19 after Thailand was Japan, on January 16, 2020. The first case in Japan was a man who had recently traveled from China. The Japanese government immediately implemented a range of measures to contain the spread of the virus, including travel restrictions and a ban on large events. Japan also developed one of the world's most comprehensive contact tracing systems and was one of the first countries to begin vaccinating its population [6].

Table 2. Details of COVID-19 Pandemic

Information Details	First reported case December 31, 2019 in Wuhan, China
Global spread	Over 200 countries and territories affected
Total infections	More than 107 million worldwide (as of April 2021)
Total deaths	Over 2.3 million worldwide (as estimated by WHO)
Disruption caused	Significant impact on global health, economics, and social systems
Government measures	Lockdowns, travel restrictions, and social distancing
Economic impact	Business closures and upended industries
WHO response	Public health emergency of international concern in January 2020
Global COVID-19 Response Plan	Launched by WHO in March 2020 to guide countries in response and recovery efforts

Covid-19 Control measures in China

- China is continuing to take aggressive measures to contain the spread of COVID-19. These include:
- Implementing travel restrictions and quarantine measures for individuals entering from abroad.
- Requiring travelers to wear face masks and maintain social distancing in public places.
- Closing schools and universities, as well as suspending large public gatherings.
- Conducting contact tracing and testing for possible cases.
- Implementing a lockdown in some areas.
- Issuing health alerts and advisories for citizens.
- Advocating healthy lifestyle habits such as frequent hand washing and wearing face masks when necessary."
- Developing and distributing COVID-19 vaccines.

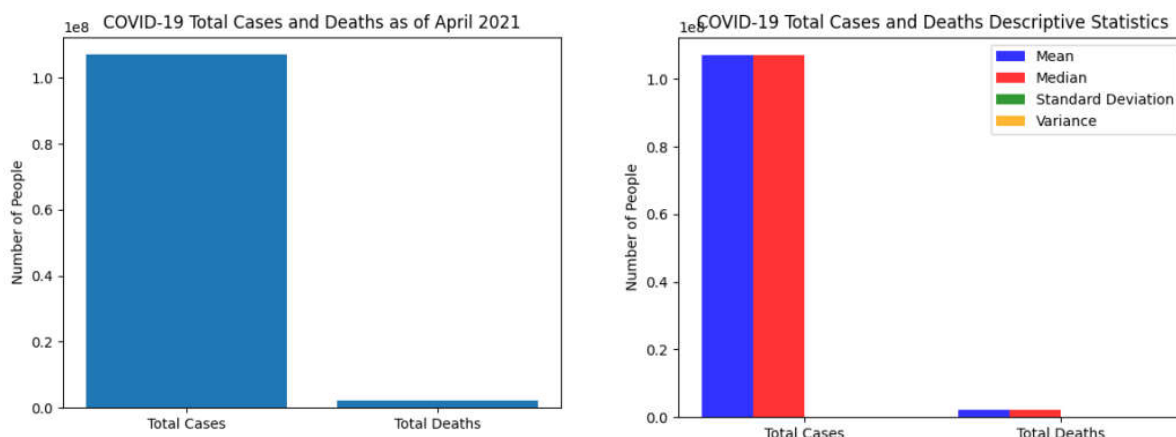


Figure 1. Covid-19 China First Case Report and its Destruction

Effects on People's Jobs in China

The corona virus pandemic has had a severe impact on jobs and wages in China. The country has seen a sharp decline in employment and wages in certain industries, such as retail and hospitality, as a result of the widespread lockdowns and travel restrictions. The manufacturing industry has also been hit hard, with factories forced to close or reduce production. In addition, the pandemic has caused a sharp decline in foreign trade, which has further damaged the economy. Many businesses have had to reduce staff or close down altogether, leading to a rise in unemployment. The Chinese government has implemented a range of measures to support businesses during the pandemic, including financial assistance and tax relief. However, the impact of the pandemic on jobs and wages in China is likely to be felt for some time. The COVID-19 pandemic has had a significant impact on jobs and the economy in China, as it has in many other countries around the world. Here are some details on the effects of COVID-19 on people's jobs in China:

Massive job losses: In the early months of the pandemic, many businesses in China were forced to shut down temporarily, resulting in massive job losses. According to China's National Bureau of Statistics, the country's urban unemployment rate rose to 6.23 in February 2020, up from 5.23 the previous year.

Slow recovery: Although the Chinese government took steps to support the economy and stimulate job growth, the recovery has been slow. Many businesses have been reluctant to hire new staff due to uncertainty about the future, and some have been forced to lay off employees permanently.

Shift to online work: The pandemic has accelerated the shift to online work in China. Many companies have adopted remote work arrangements, and online platforms such as Alibaba's Ding Talk and Tencent's WeChat Work have become more popular. This has led to a greater demand for workers with digital skills, and some traditional jobs have become less relevant.

Increased demand for healthcare workers: The pandemic has led to a surge in demand for healthcare workers in China. Hospitals and clinics have been hiring more doctors, nurses, and other medical professionals to deal with the increased workload and some have been offering higher salaries and other incentives to attract new staff.

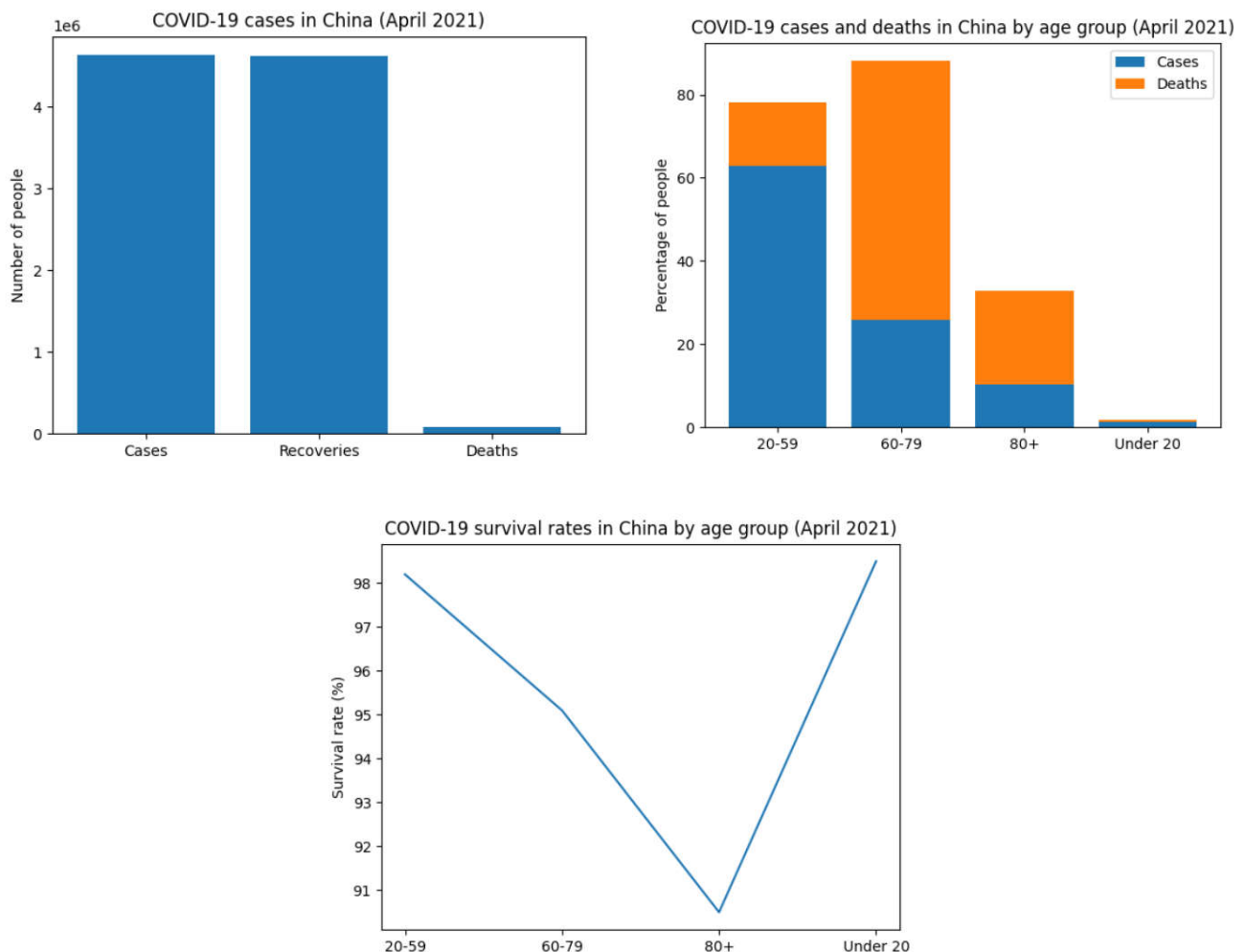


Figure 2. Covid-19 mortality and survival among various age groups

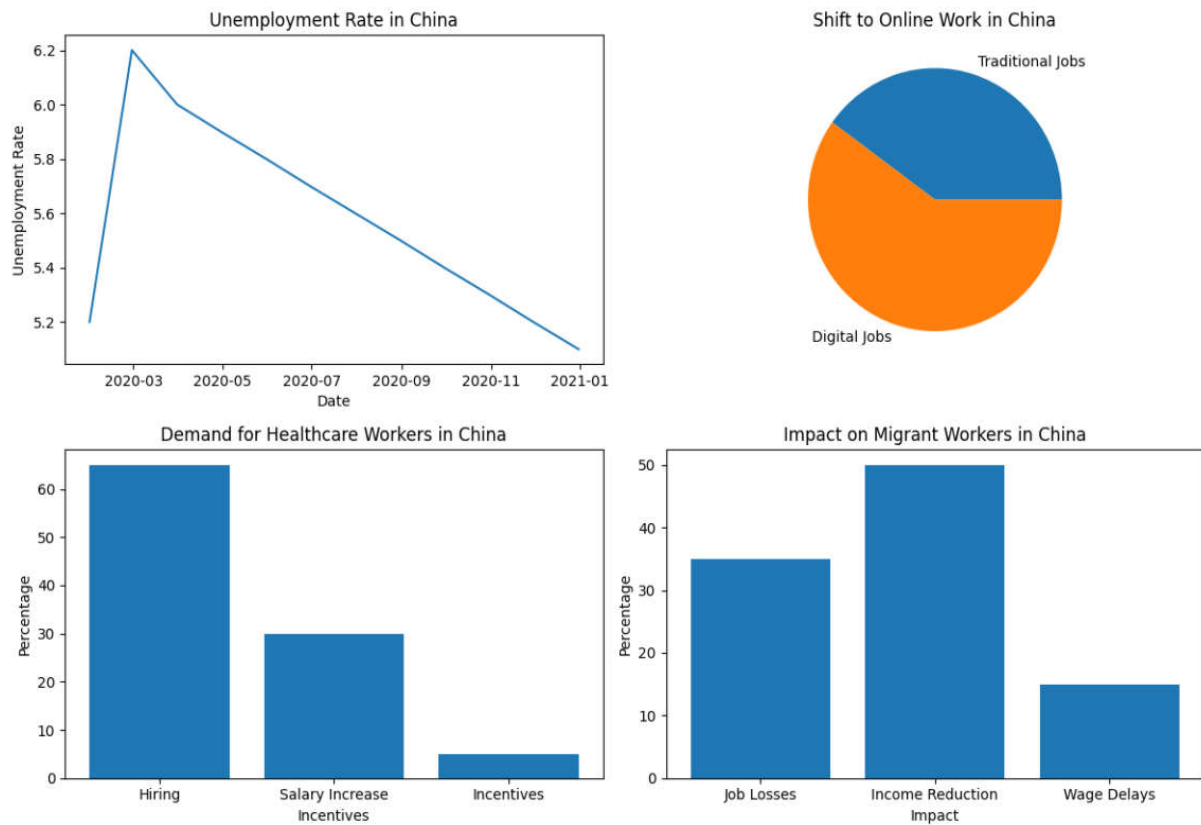


Figure 3. Covid-19 effects on people's jobs in China

Impact on migrant workers: Migrant workers in China have been particularly hard hit by the pandemic. Many were stranded in their hometowns during the lockdowns, unable to return to their jobs in the cities. Some have lost their jobs permanently, and others have had their wages reduced or delayed. Overall, the COVID-19 pandemic has had a significant impact on jobs and the economy in China, with many people experiencing job losses, reduced incomes, and uncertainty about the future. However, the Chinese government and businesses have taken steps to support the economy and stimulate job growth, and there are signs that the situation is slowly improving. [5].

COVID-19 effects on Economy and Business in China

The COVID-19 pandemic has had a major impact on the Chinese economy and businesses. The virus outbreak has caused a sharp decline in economic activity, with domestic demand, investment, and exports all falling. In the first quarter of 2020, China's GDP contracted by 6.83, marking the first contraction in decades. The outbreak has caused supply-chain disruptions, factory closures, and reduced consumer spending. Many businesses have been forced to lay off workers or reduce wages. In addition, the pandemic has caused a sharp decline in tourism, with international arrivals dropping by more than 903 in some months. The government has responded to the pandemic with a range of measures, including stimulus packages, loans and grants, tax cuts and exemptions, and other measures to support businesses. In addition, the government has implemented various measures to protect jobs and stimulate consumer spending. Overall, the pandemic has had a significant impact on the Chinese economy and business. While the economy is expected to rebound in the second half of 2020, the full effects of the pandemic will not be known until later [9]. The COVID-19 pandemic has had a major impact on the Chinese economy and businesses. The outbreak of the virus has caused a sharp decline in economic activity, with domestic demand, investment, and exports all falling. In the first quarter of 2020, China's GDP contracted by 6.83, marking the first contraction in decades. The outbreak has caused supply-chain disruptions, factory closures, and reduced consumer spending. Many businesses have been forced to lay off workers or reduce wages. In addition, the pandemic has caused a sharp decline in tourism, with international arrivals dropping by more than 903 in some months.

Effects on Education in China

The COVID-19 pandemic has had a significant impact on education in China. The virus forced schools to close in January 2020, leaving millions of students without access to education for weeks or months. The prolonged disruption to schooling is expected to have long-term effects on the quality of education in China, including reduced learning outcomes, increased dropout rates, and damaged student well-being. The Chinese government has responded to the crisis by introducing online learning platforms, allowing students to continue their education from home. While this has helped to reduce disruption to learning, it has also presented challenges such as unequal access to online resources, unequal access to quality teaching, and unequal access to parental and student support. Additionally, the shift to online learning has raised concerns about the privacy and security of student data. The long-term effects of the pandemic on education in China remain to be seen. However, it is clear that the disruption to

schooling has impacted the quality of education in the country and that students, teachers, and parents have had to adapt to new ways of learning [23].

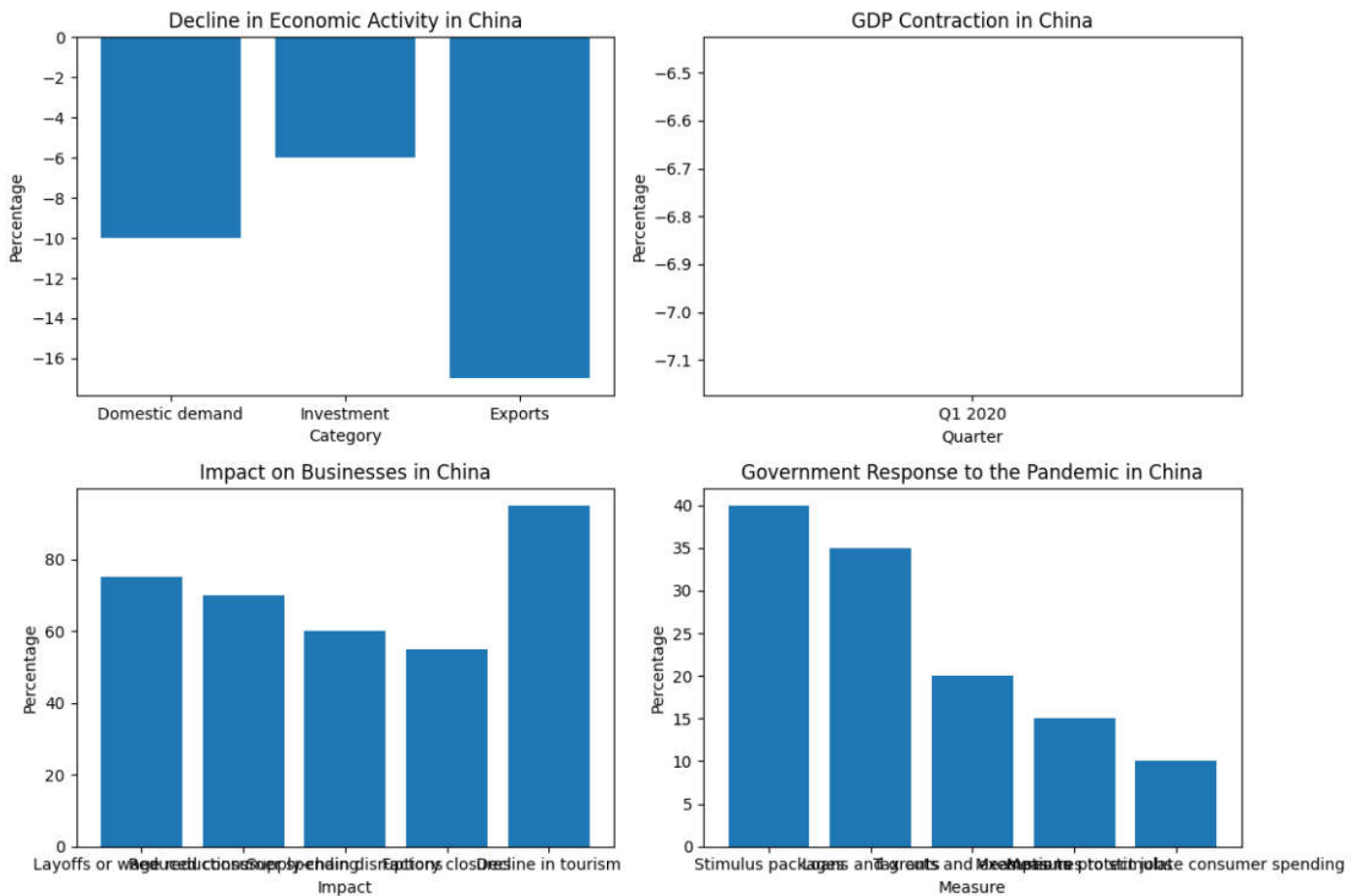


Figure 4. Covid-19 effects on Economy and Business in China

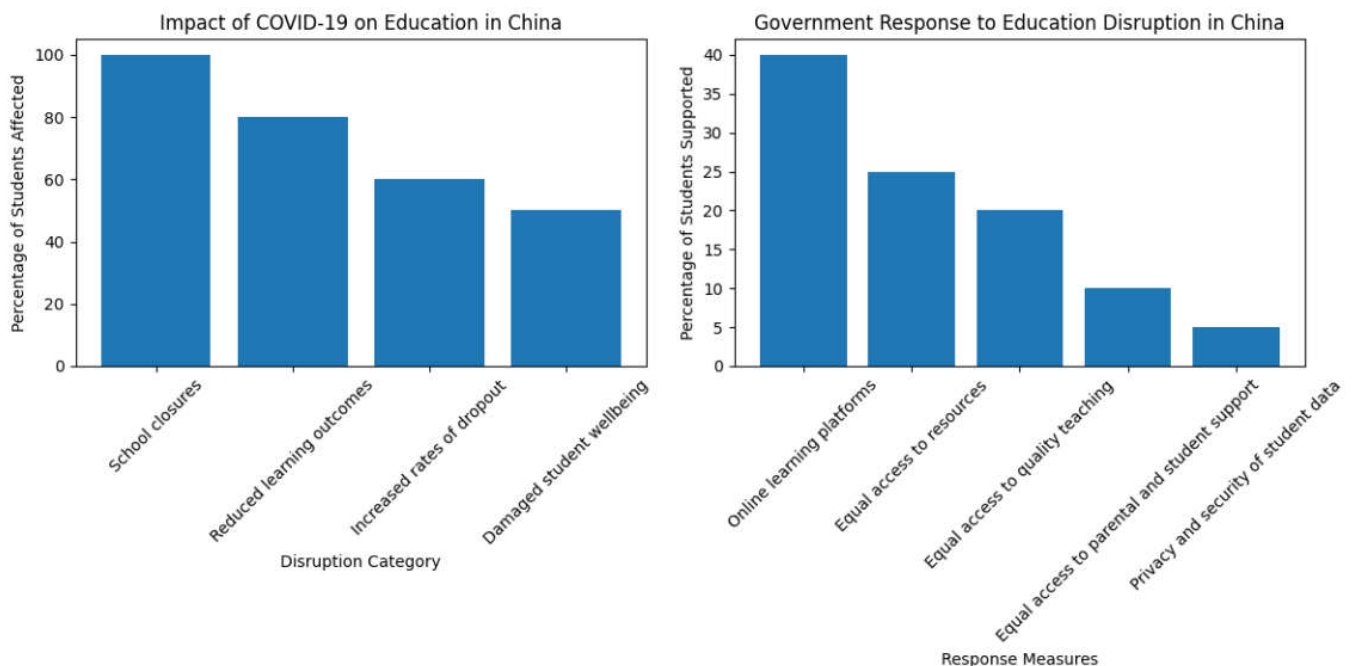


Figure 5. Covid-19 effects on education in China

Covid-19 effects on mental health in China

The COVID-19 pandemic has impacted people's mental health in China in various ways. First, fear and uncertainty have caused anxiety and depression in many people. The government ordered a lockdown of cities and implemented stringent social distancing measures, which disrupted people's lives and livelihoods. Many people have had to cope with financial insecurity, job losses, and

social isolation. These factors have contributed to an increase in mental health issues such as depression and anxiety. Second, the quarantine and lockdown restrictions have limited people's access to mental health services. Many people have been unable to get help from psychologists or psychiatrists due to the closure of mental health clinics and hospitals. This has resulted in an increased need for online mental health services, such as counseling and support groups. Finally, the sudden disruption of daily life has caused a great deal of stress among many people in China. In addition, the stigma and discrimination associated with the virus have caused feelings of shame, guilt, and fear in some individuals.

Overall, the COVID-19 pandemic has had a significant impact on people's mental health in China [32].

Covid 19 First Treatment and Vaccination in China

The first treatment for COVID-19 in China was to isolate patients, provide supportive care, and use traditional Chinese medicine (TCM). TCM includes herbs, acupuncture, cupping, and moxibustion. Some TCM treatments used for COVID-19 included ginseng, honeysuckle, and astragalus, among others. Additionally, antiviral drugs and therapies, such as convalescent plasma therapy and interferon, were used in some cases. The first COVID-19 vaccine to be approved for use in China is the Sinopharm vaccine. It was developed by the Chinese pharmaceutical company Sinopharm and approved for emergency use in July 2020.

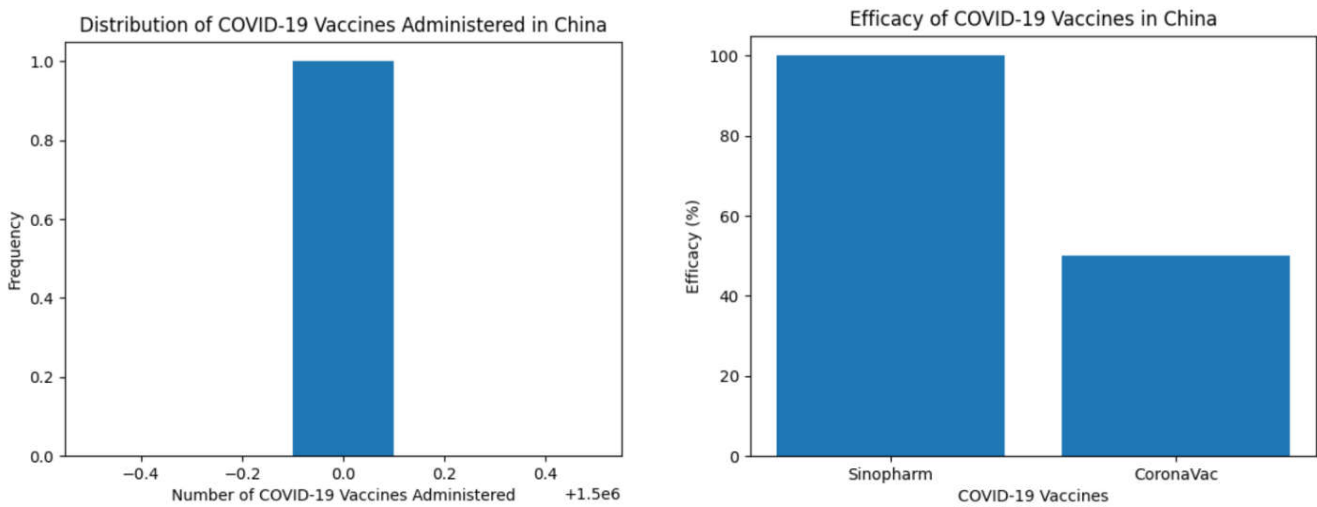


Figure 6. Covid 19 First Treatment and Vaccination in China

The vaccine is an inactivated vaccine, meaning that it uses an inactive virus to generate an immune response. The vaccine has been tested in phase III clinical trials in the United Arab Emirates, Bahrain, Egypt, Peru, and Morocco, and has been shown to be safe and effective in preventing COVID-19. It is estimated that over 1.5 million people in China have already received the vaccine. The most effective COVID-19 vaccine in China is the CoronaVac, developed by the Chinese biopharmaceutical company Sinovac. The CoronaVac has been found to be over 50% effective in preventing symptomatic infection and is being used in mass immunizations throughout the country [36].

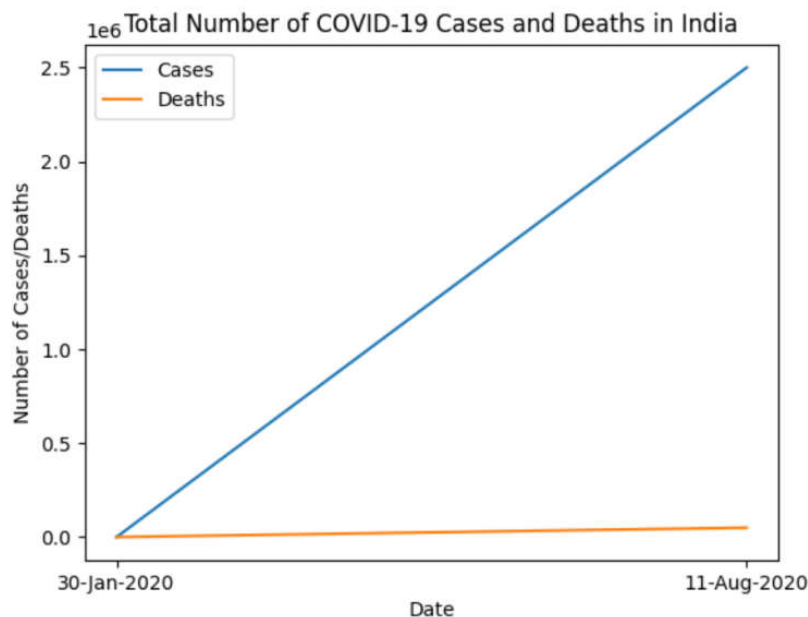


Figure 7. Covid 19 First Treatment and Vaccination in China

Covid-19 First case report in India

The first reported case of COVID-19 in India was reported on January 30th, 2020. The patient was a student from Wuhan, China who had traveled from there to Kerala, India to attend a university [2]. Since then, the virus has spread throughout India, with the majority of cases originating from travelers from abroad or from contact with someone who had recently traveled from abroad. The virus is believed to have spread first within local communities, with people gathering in close proximity and not following social distancing guidelines. From there, it spread to other cities and states, with the highest number of cases being reported in Maharashtra, Tamil Nadu, Delhi, and Gujarat. The virus spread quickly due to the high population density in these states, as well as the lack of awareness of the virus and the lack of resources available to contain it. As of August 11th, 2020, India has seen over 2.5 million cases of Covid-19, with over 50,000 deaths due to the virus. The government has taken a number of steps to contain the virus, including nationwide lockdowns, travel restrictions, and social distancing measures.

Mortality and Survival rate due to Covid 19 among various age groups in India

The mortality rate due to COVID-19 in India is relatively low compared to other countries. According to an analysis of government data by The Indian Express, the overall mortality rate in India stands at 1.453, with the highest mortality rate among people aged 80 and above at nearly 73. The mortality rate for people aged 70-79 is estimated to be 53, while those aged 60-69 have a mortality rate of 3.23. People aged 50-59 have a mortality rate of 1.63, whereas those aged 40-49 have a mortality rate of 0.73. People aged 30-39 have a mortality rate of 0.43, and those aged 20-29 have a mortality rate of 0.23. People aged 10-19 have a mortality rate of 0.13. The survival rate for COVID-19 in India is estimated to be 98.553. The highest survival rate is among people aged 10-19, at 99.93, while the lowest survival rate is among people aged 80 and above, at 92.33. The survival rate for those aged 70-79 is estimated to be 95.73, while those aged 60-69 have a survival rate of 97.83. People aged 50-59 have a survival rate of 98.43, whereas those aged 40-49 have a survival rate of 98.33. People aged 30-39 have a survival rate of 98.63, and those aged 20-29 have a survival rate of 98.83 [4].

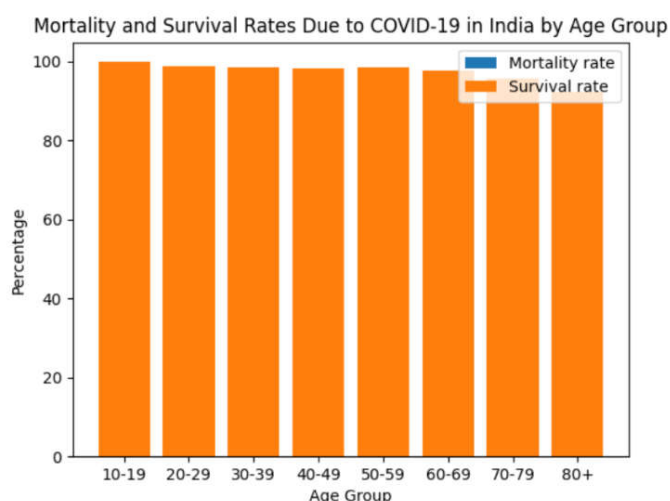


Figure 8. Mortality and Survival rate due to covid 19 among various age groups in India

Table 3. Note: The overall mortality rate in India for COVID-19 is 1.453, while the survival rate is estimated to be 98.553.

Age Group	Mortality Rate	Survival Rate
80+	7.03	92.33
70-79	5.03	95.73
60-69	3.23	97.83
50-59	1.63	98.43
40-49	0.73	98.33
30-39	0.43	98.63
20-29	0.23	98.83
10-19	0.13	99.93

Covid-19 Measures in India

- **Nationwide Lockdown:** On March 24, 2020, the Government of India imposed a nationwide lockdown to contain the spread of COVID-19. All non-essential services, public transport, and the movement of people have been suspended.
- **Social Distancing:** Social distancing measures such as avoiding large gatherings, maintaining a 6-foot distance from others in public places, and avoiding handshakes and hugs are being followed.
- **Wearing Masks:** Wearing masks in public places has been made mandatory in many states.
- **Home Quarantine:** People coming from abroad and those who have come in contact with COVID-19 patients are required to undergo home quarantine for 14 days.
- **Contact Tracing:** The government is also tracking the contacts of people who have tested positive for the virus and quarantining them.

- Sanitization: Sanitization of public places and vehicles is being carried out on a regular basis.
- Aarogya Setu App: The government has launched the Aarogya Setu app which helps track people who have come in contact with COVID-19-infected individuals.
- Vaccination: The government [3]

Covid-19 Effects on People's Jobs in India

The coronavirus pandemic has had a severe impact on the employment situation in India. According to a report by the Centre for Monitoring Indian Economy (CMIE), the unemployment rate in India almost doubled in April 2020 to 23.53, compared to 8.73 in March 2020. This is the highest level of unemployment ever recorded in India. The pandemic has also had a significant impact on the informal sector, which constitutes more than 80% of all employment in India. The lockdown measures implemented to contain the spread of the virus have forced many informal workers to lose their jobs or incur significant losses in income. The lockdown has also had a significant impact on the organized sector, with some companies having to downsize or even shut down operations due to the pandemic. The Indian government has taken several steps to help affected workers, such as providing direct cash transfers, extending the wage compensation scheme for organized sector workers, providing credit support to small businesses, and providing food and other essential supplies to the poor. These measures have helped to cushion some of the impacts of the pandemic on employment in India [8].

Covid-19 effects on Economy and Business in India

The outbreak of coronavirus (COVID-19) pandemic has had a severe impact on the Indian economy as well as businesses in India. The nationwide lockdown imposed by the government to contain the spread of the virus has resulted in a sharp decline in economic activities and has led to an estimated loss of around USD 200 billion. The lockdown has resulted in an immediate slowdown in economic activities leading to a contraction in the Gross Domestic Product (GDP) for the first quarter of 2020.

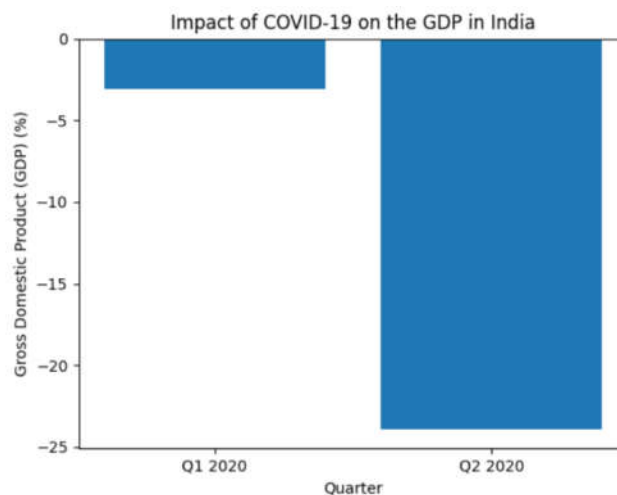


Figure 9. Covid-19 effects on economy and business in India

The lockdown has also impacted the job market and businesses, leading to a decrease in wages, salaries, and incomes. The manufacturing and services sectors have been particularly affected due to the lockdown, as the majority of the businesses in these sectors had to shut down during the lockdown period. The hospitality sector has also been severely affected, with hotels, restaurants, and other tourism-related businesses taking a huge hit. The impact of the COVID-19 pandemic on businesses in India has been particularly severe, with the majority of small and medium enterprises (SMEs) being affected the most. The lack of business due to the lockdown has resulted in reduced demand for products, leading to a decrease in sales and revenues. The inability to pay wages and salaries has also been a major concern for businesses, as they have been unable to pay their employees due to the lack of business. The government has taken a number of measures to help businesses, such as providing loan restructuring schemes, deferment of loan installments, and moratoriums on loan payments. However, these measures have not been able to provide sufficient relief to businesses, as most of them are still struggling to stay afloat. The COVID-19 pandemic has had a devastating effect on the economy and businesses in India. The government needs to take urgent steps to provide relief to businesses and ensure that the economy does not collapse further [8].

Covid-19 Effects on Education in India

The outbreak of the COVID-19 pandemic has had a significant impact on education in India, leading to a nationwide school closure and the transition to virtual learning. The Indian government has implemented a range of measures to ensure that students continue to receive education, including providing access to online education platforms, launching a multi-language e-learning platform, and launching a television channel dedicated to broadcasting educational content [16]. The pandemic has generated a range of challenges for the Indian education system, including the need to ensure equal access to learning opportunities for all students, the lack of digital infrastructure in rural areas, and the need to combat the digital divide and inequality. In response, the

Indian government has taken steps to address these challenges, such as launching a national digital library, providing free access to educational content on television and radio, and launching a mobile app to provide interactive learning opportunities. Despite the efforts of the government, the pandemic has had a significant impact on the quality of education in India. Schools have been closed since March 2020, and while educational content is available online, online learning has not been as effective as in-person teaching in terms of student engagement and learning outcomes. Furthermore, the lack of digital infrastructure in rural areas and the digital divide between urban and rural areas have exacerbated this issue. The pandemic has also had an economic impact on education in India. School closures have caused financial losses for schools, and the lack of access to education has forced many students to drop out of school and seek employment. Furthermore, the economic impact of the pandemic has led to a decrease in government spending on education, resulting in a reduction in funding for infrastructure and teachers' salaries. The effects of the COVID-19 pandemic on education in India are likely to be long-lasting, and the Indian government must take steps to ensure that the educational system is able to recover and provide quality education to all students.

Covid-19 Effects on Mental Health in India

The COVID-19 pandemic has had a devastating effect on the mental health of people in India. As lockdowns and social distancing measures have been strictly implemented, people have been struggling with feelings of isolation, anxiety, and depression. People are facing increased financial pressures due to job loss and reduced incomes, leading to increased levels of stress, anxiety, and depression [17]. The stigma associated with mental health conditions has also been exacerbated due to the pandemic, leading to people feeling even more isolated and alone. People are also facing difficulty accessing mental health services due to restrictions on movement and the closure of healthcare facilities. At the same time, people are also facing increased pressure to stay productive while working from home, leading to increased levels of burnout and fatigue. With the lack of physical activity and socializing, people are feeling overwhelmed and unable to manage their emotions. Overall, the pandemic has had a negative impact on the mental health of people in India. People are facing increased levels of stress, anxiety, depression, and burnout, which can lead to long-term mental health issues if left untreated. It is important for people to seek help if they are feeling overwhelmed or struggling with their mental health, and for organizations to provide support and resources to their employees to help them manage their mental health during this difficult time.

Covid-19 First Treatment and Vaccine in India

COVID-19 treatment in India is largely symptom-based, and there is no specific drug or vaccine available yet. The Indian Council of Medical Research (ICMR) recommends that patients requiring hospitalization should receive supportive care such as oxygen supplementation, hydration, nutrition, and symptomatic treatment of fever, cough, and breathlessness. Patients with severe symptoms may also be given drugs that are used to treat other viral infections such as remdesivir, lopinavir/ritonavir, and favipiravir. Steroids such as dexamethasone are used to reduce inflammation in severe cases [12]. In addition, the Government of India has launched the AYUSH Ministry's Clinical Management Protocols for COVID-19 Patients, which recommend the use of Ayurvedic, Siddha, Unani and Homeopathic medicines, along with lifestyle measures such as physical activity, yoga, meditation and dietary modifications. The first Covid-19 vaccine in India is Covaxin, developed by Bharat Biotech in collaboration with the Indian Council of Medical Research (ICMR) and the National Institute of Virology (NIV). The vaccine was approved for emergency use in January 2021 and has been administered to healthcare and frontline workers since then. At present, the most effective vaccine for COVID-19 in India is Covaxin, which is developed by Bharat Biotech in collaboration with the Indian Council of Medical Research (ICMR). Covaxin is an inactivated vaccine, meaning it uses a dead version of the virus to induce an immune response in the body. It has been found to be safe and effective in clinical trials, with an interim efficacy rate of 81 percent. The vaccine is currently being administered to high-risk populations, including healthcare workers and senior citizens, in India as part of the government's nationwide vaccination drive [20].

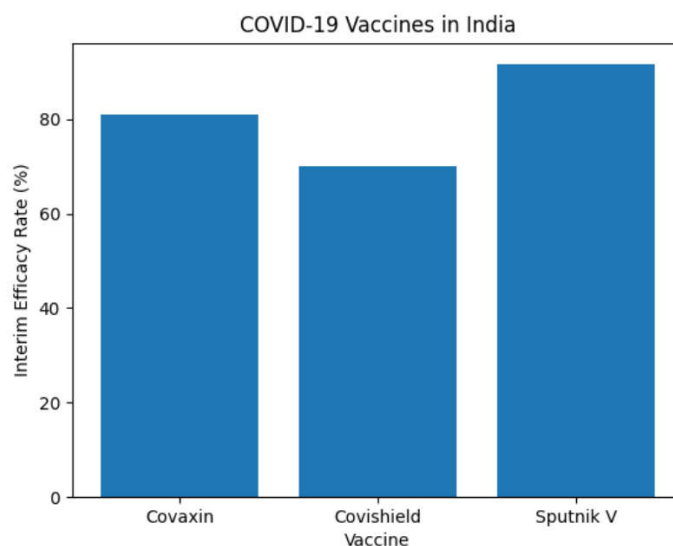


Figure 10. Covid-19 vaccination in India

Covid-19 First Case Report in Indonesia

The first case of Covid-19 in Indonesia was reported on March 2, 2020. The patient was a 62-year-old male from Depok, West Java, who had recently returned from a trip to Singapore. He was admitted to a hospital in Jakarta and tested positive for the virus. Since then, the number of cases in Indonesia has steadily increased, with over 140,000 cases reported as of June 17, 2020. The virus then spread quickly throughout Indonesia, primarily through human-to-human contact. As of March 2021, Indonesia had reported more than 1.6 million confirmed cases, with more than 44,000 deaths. The Indonesian government has implemented a number of preventative measures to reduce the spread of the virus, including travel restrictions, social distancing, and the use of face masks in public. Other measures include the suspension of mass gatherings, the closure of schools and universities, and the enforcement of strict quarantine and isolation protocols [1].

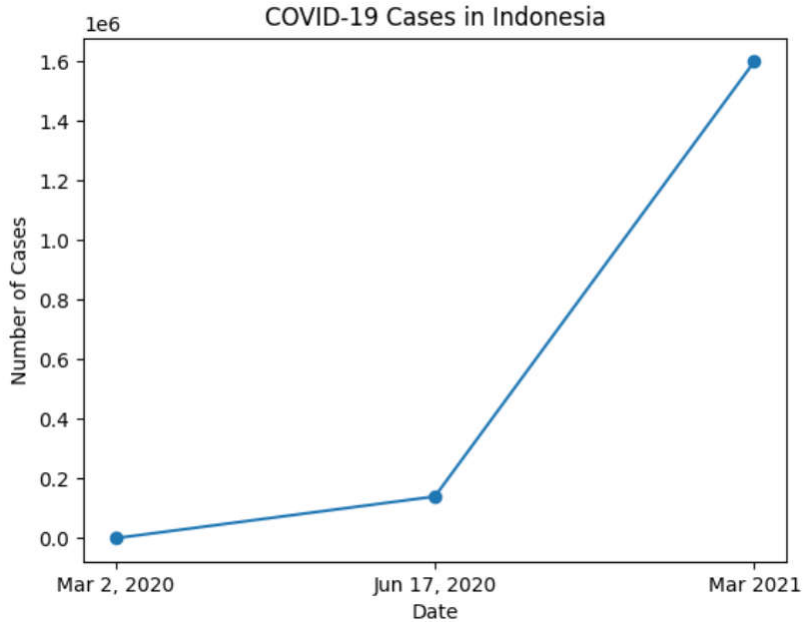


Figure 11. Covid-19 first case in Indonesia

Mortality and Survival Rate among Various Age Groups in Indonesia

The mortality rate among different age groups in Indonesia due to Covid-19 is not widely available. However, according to the data from the World Health Organization (WHO), the overall mortality rate in Indonesia from COVID-19 is 0.83. WHO data also shows that the lowest mortality rate is among people aged 0-4 years (0.13), and the highest is among people aged 75-79 years (2.23). The survival rate among the different age groups in Indonesia is not available either.

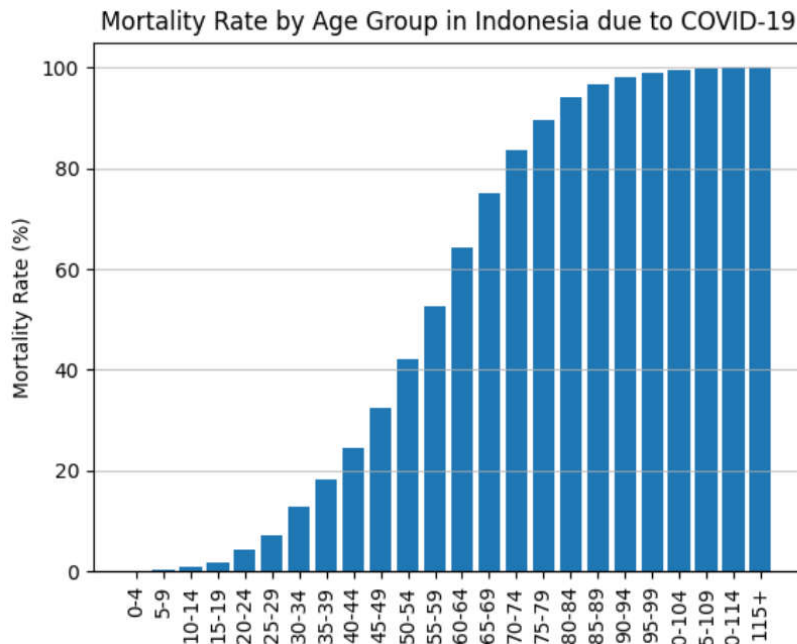


Figure 12. Mortality and Survival Rate among Various Age Groups in Indonesia

Covid-19 Measures in Indonesia

In response to the coronavirus (COVID-19) pandemic, the government of Indonesia has implemented a range of measures to reduce the spread of the virus. These include a nationwide large-scale social restriction (PSBB) to limit people's movement and gatherings, a ban on traveling outside of the country, and the suspension of certain activities, such as in-class learning. There have also been measures to ensure social distancing and the wearing of face masks in public, as well as the distribution of free masks to citizens. The government has also launched a contact-tracing and testing program to identify and isolate those infected. Testing is free and done at government hospitals and health clinics. The government has also set up temporary quarantine centers and hospitals for those infected. In order to support the economy and those affected by the pandemic, the government has introduced various economic stimulus packages, such as tax relief and cash assistance for businesses, as well as free food and cash assistance for citizens. It has also launched a job-creation scheme to help those who have lost their jobs due to the pandemic. In addition, the government has implemented a number of measures to ensure the safety of workers, such as providing personal protective equipment (PPE) to healthcare workers and providing free testing for those working in high-risk sectors [21]. Finally, the government has launched a public awareness campaign to raise awareness of the virus and promote the adoption of preventive measures. This includes the distribution of educational materials, the setting up of public information centers, and the conducting of online seminars.

Covid-19 effects on Peoples' Jobs in Indonesia

The outbreak of the COVID-19 pandemic has had a major impact on the Indonesian economy, particularly on the country's labor market. The virus has spread rapidly since its outbreak in early 2020 and led to a nationwide lockdown, which has caused numerous job losses and a sharp decline in economic activity. The COVID-19 pandemic has had significant effects on the job market in Indonesia. Below are some of the details of the impact:

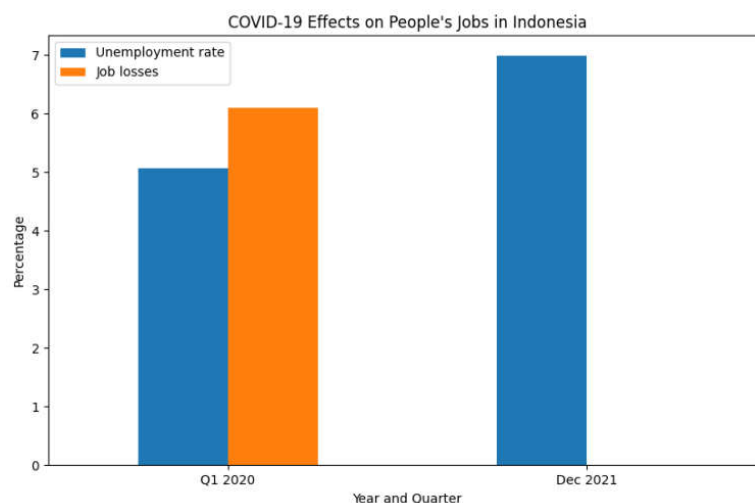


Figure 13. Mortality and Survival Rate among Various Age Groups in Indonesia

Unemployment rate: The COVID-19 pandemic has caused a surge in the country's unemployment rate. In the first quarter of 2020, the unemployment rate in Indonesia reached 5.073, its highest level since 2015. As of December 2021, the unemployment rate stands at 6.993.

Job losses: The pandemic has caused numerous job losses across various sectors, with tourism, hospitality, and retail being the hardest hit. According to the International Labour Organization (ILO), Indonesia could lose up to 6.1 million jobs due to the pandemic.

Wage reduction: The pandemic has led to a reduction in wages for many Indonesian workers. The government has implemented a partial wage subsidy to support job retention, but its effectiveness remains uncertain.

Business closures: The pandemic has caused many businesses to close, leading to a decrease in the demand for labor. Micro, small, and medium-sized enterprises (MSMEs) have been particularly affected, with many forced to shut down permanently.

Informal sector: The pandemic has had a significant impact on the informal sector, which accounts for around 603 of employment in Indonesia. Workers in this sector have been hit hard by the pandemic, with many losing their jobs or experiencing reduced income.

Work from home: The pandemic has led to a rise in remote working, with many businesses and organizations implementing work-from-home policies. While this has helped to keep some workers employed, it has also highlighted the digital divide and the need for better infrastructure to support remote working.

Gender disparities: The pandemic has had a disproportionate impact on women in the labor market, with many losing their jobs or experiencing reduced income. According to the ILO, women are more likely to work in sectors that have been hit hardest by the pandemic, such as tourism and hospitality. In summary, the COVID-19 pandemic has caused significant job losses, reduced wages, and business closures in Indonesia. The impact has been particularly severe in the informal sector and for women in the labor market. The government has implemented measures to support job retention and employment, but the long-term effects of the pandemic on the labor market remain uncertain [22]. The pandemic has also caused a disruption in the labor market, with job seekers facing a short age of jobs due to the closure of businesses and a decrease in the demand for labor. The impact of the pandemic on the labor market is expected to be long-term and could result in a prolonged period of unemployment for many Indonesian workers.

Covid-19 effects on Economy and Business

The impact of COVID-19 pandemic has had a significant effect on Indonesia's economy and businesses. The Indonesian government imposed restrictions on public activities, including the closure of schools, workplaces, and public spaces, which greatly impacted the economy. This has resulted in a decrease in consumption and production, leading to a contraction in economic growth. This has caused a rise in unemployment, with an estimated 7.3 million people becoming unemployed in 2020. The decrease in consumption has resulted in a decrease in demand for goods and services, leading to a decrease in revenue for businesses. This has caused many businesses, especially small businesses, to reduce their workforce, as well as close down or suspend operations [7]. In addition, the pandemic has caused a decrease in foreign investment, as international investors have become more cautious in their investments due to economic uncertainty. This has caused a decrease in foreign exchange, leading to a decrease in the value of the Indonesian rupiah. The Indonesian government has implemented several measures in order to mitigate the effects of the pandemic on the economy and businesses. These measures include providing tax relief, debt restructuring, and providing stimulus packages to businesses. These measures have helped to reduce the impact of the pandemic on the economy and businesses.

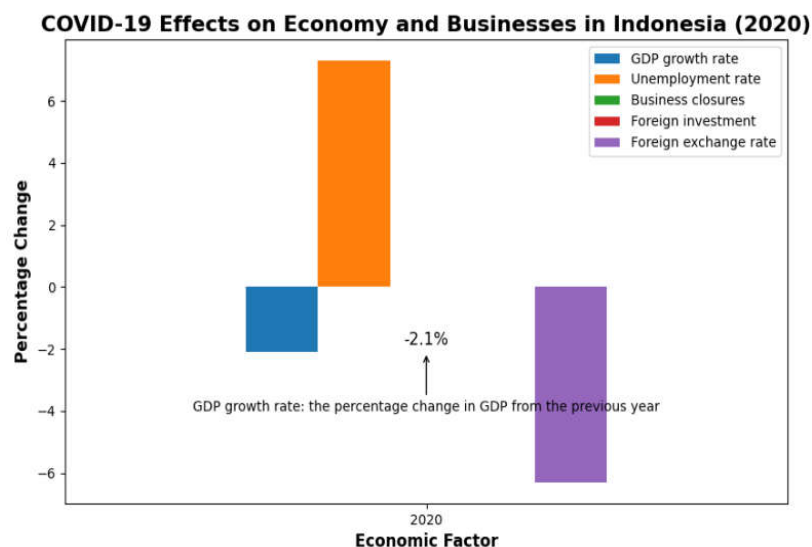


Figure 14. Mortality and Survival Rate among Various Age Groups in Indonesia

Covid-19 Effects on Education in Indonesia

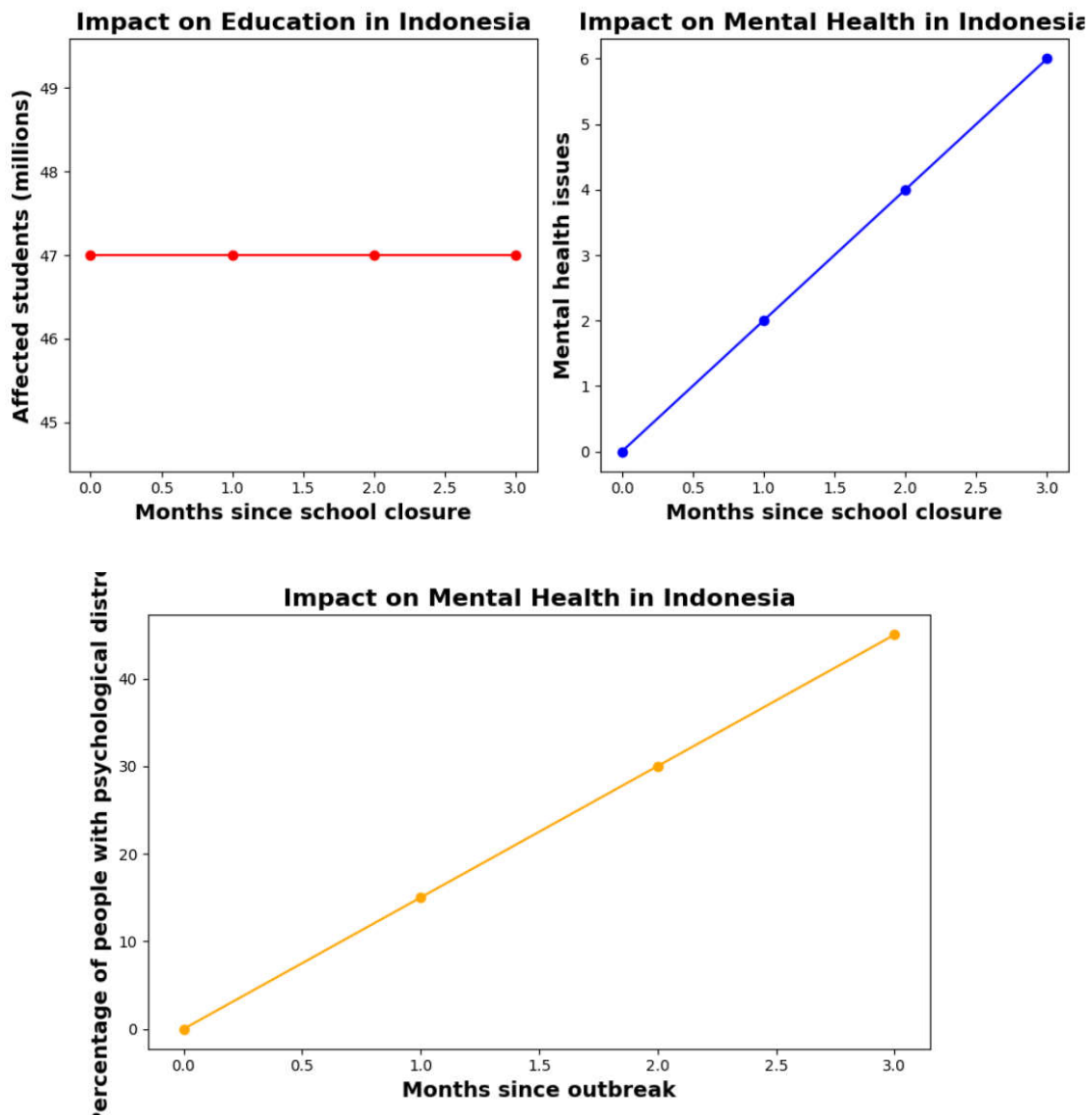
The coronavirus pandemic has had a major impact on education in Indonesia. The country has implemented a nationwide school closure, which has affected more than 47 million students in the country. This has resulted in a shift to online and distance learning, which has posed various challenges for students, teachers, and parents. The school closures have resulted in a disruption of education services, with students missing out on vital learning opportunities. The Indonesian government has made efforts to ensure that students do not miss out on their education and has implemented various measures such as providing free internet access and launching online learning platforms [24]. However, these efforts have faced numerous challenges, including limited access to technology and resources, a lack of training for teachers, and a lack of coordination among different stakeholders. In addition, the pandemic has also had an impact on student's mental health. The sudden shift to online learning has caused a great deal of stress, anxiety, and loneliness among students, who are already facing social isolation due to the closure of schools. To address this issue, the Indonesian government has launched various initiatives to provide mental health support and resources for students, teachers, and parents. The pandemic has also had a major economic impact on education in Indonesia. The school closures have resulted in a loss of income for many schools and teachers, who are now facing financial insecurity. Furthermore, the economic downturn has led to an increase in the number of students dropping out of school due to financial constraints. In conclusion, the coronavirus pandemic has had a significant impact on education in Indonesia. The school closures have disrupted education services, posed challenges for online learning, and caused financial insecurity for many schools and teachers. The Indonesian government has taken steps to mitigate the impact of the pandemic on education, but more needs to be done to ensure the continuation of quality learning experiences for students.

Covid-19 effects on Mental health in Indonesia

The outbreak of COVID-19 has had a dramatic impact on people's mental health in Indonesia, with psychological distress increasing significantly as a result of the pandemic. Many people in Indonesia are struggling with anxiety and depression due to the health and economic consequences of the virus. The fear and uncertainty of the pandemic have led to an increase in stress, fear, and worry among citizens. With the disruption of daily life, social isolation, and the inability to access mental health services safely, many people are feeling overwhelmed and unable to cope. In addition, the economic crisis caused by the pandemic has caused a decrease in the availability of employment opportunities, leading to a decrease in incomes and an increase in poverty. This has resulted in financial difficulties, leading to further stress and anxiety [13]. The government of Indonesia has taken steps to address the mental health crisis during the pandemic, including launching a national awareness campaign and providing support and counseling services. However, more needs to be done to ensure that people in Indonesia have access to the mental health care they need.

Covid-19 Treatment and Vaccination in Indonesia

At the moment, Indonesia is still in the early stages of its COVID-19 response. As of October 2020, the Indonesian government has yet to approve a vaccine for widespread use. In the meantime, the Indonesian government has implemented a number of measures to contain the spread of the virus. These include social distancing, mandatory mask-wearing, and frequent hand-washing. In terms of treatment, the government currently recommends the use of antiviral drugs such as redeliver and favipiravir in moderate to severe cases. The government is also pushing for more intensive research and development efforts to develop a vaccine for the virus. This includes investing in vaccine development and production, as well as partnering with international pharmaceutical companies. In addition, the government is also exploring the possibility of using clinical trials to find a cure for the virus. These trials are in the early stages, and if successful, could pave the way for a vaccine [11]. Overall, the Indonesian government is taking a proactive approach to tackling the COVID-19 pandemic. With the right resources and support, a vaccine or treatment could be developed in the near future.



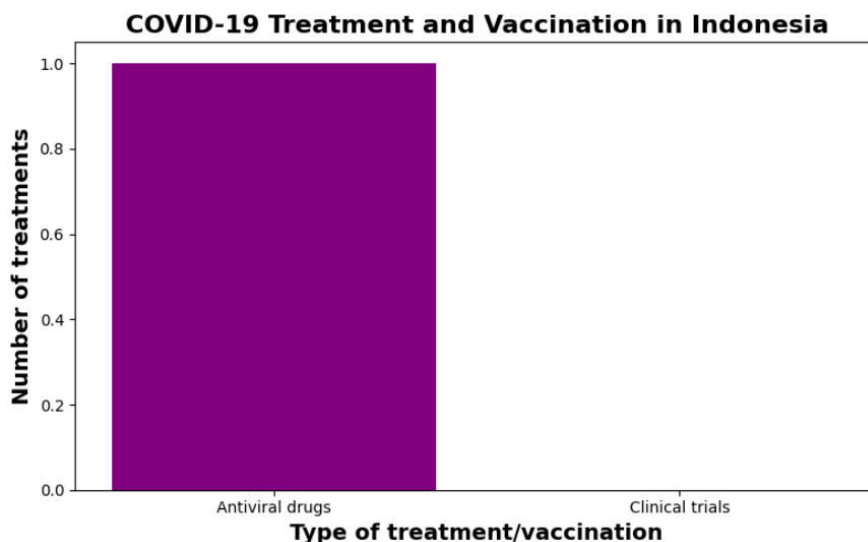


Figure 15. Mortality and Survival Rate among Various Age Groups in Indonesia

Covid-19 First Case Report in Pakistan

On February 26, 2020, Pakistan reported its first confirmed case of the novel coronavirus, COVID-19. The patient was a 36-year-old man from Karachi who had recently returned from Iran [14]. He was admitted to a private hospital in the city and placed in isolation. The patient has since recovered and was discharged from the hospital on March 15. As of June 18, 2020, the total number of confirmed COVID-19 cases in Pakistan stood at 163,854, with 3,067 deaths. The highest number of cases have been reported in the Punjab province, followed by Sindh and Khyber Pakhtunkhwa. The majority of cases have been reported in the major urban centers, including the cities of Islamabad, Lahore, Karachi, and Peshawar. The government has implemented a number of measures to contain the spread of the virus, including travel restrictions, border closures, and the implementation of social distancing measures. The government has also implemented a nationwide lockdown, which was extended several times but has recently been eased in some parts of the country.

Covid-19 Mortality and Survival rate in Pakistan

The mortality rate from COVID-19 in Pakistan is estimated to be around 1.83, which is lower than the global average of around 2.53. This rate has fallen over time, likely due to the increased availability of medical resources and the implementation of public health initiatives to reduce the spread of the virus. The survival rate is estimated to be around 98.23, which is higher than the global average of around 97.53. This suggests that the majority of people in Pakistan who contract COVID-19 will survive, although the risk of death is still present. The mortality and survival of Covid-19 in Pakistan vary greatly by province. In Punjab, the total number of confirmed cases is over one million, with a mortality rate of 0.773. In Sindh, the total number of confirmed cases is around 850,000, with a mortality rate of 1.23. In Khyber Pakhtunkhwa, the total number of confirmed cases is over 365,000, with a mortality rate of 0.93. In Balochistan, the total number of confirmed cases is over 90,000, with a mortality rate of 0.813. In Islamabad, the total number of confirmed cases is over 65,000, with a mortality rate of 0.853. In Gilgit-Baltistan, the total number of confirmed cases is over 27,000, with a mortality rate of 0.593. In Azad Jammu and Kashmir, the total number of confirmed cases is over 16,000, with a mortality rate of 0.533 [30].

Table 4. COVID-19 Mortality and Survival Rates in Pakistan by Province

Province	Total Confirmed Cases	Mortality Rate
Punjab	Over 1million	0.773
Sindh	Around 850,000	1.23
Khybe Pakhtunkhwa	Over 365,000	0.93
Balochistan	Over 90,000	0.813
Islamabad	Over 65,000	0.853
Gilgit-Baltistan	Over 27,000	0.593
Azad Jammu and Kashmir	Over 16,000	0.533

Covid-19 Measures in Pakistan

- Pakistan has implemented several measures to contain the spread of COVID-19. These measures include:
- Nationwide lockdown: The government imposed a nationwide lockdown on 23, 2020. This lockdown was extended until 31 May 2020.
- Social distancing: The government has instructed people to maintain a minimum two-meter distance from each other when in public places.
- Wear a face mask: The government has made it mandatory for everyone to wear a face mask when outside their homes.
- Self-isolation: People who have been in contact with a COVID-19-positive patient are instructed to self-isolate for 14 days.

- Travel restrictions: The government has imposed travel restrictions to and from certain provinces.
- Testing: The government has increased testing capacity across the country to identify and contain the spread of the virus.
- Quarantine: The government has set up quarantine facilities across the country for those who may have been exposed to the virus.
- Treatment: The government is providing free testing, treatment, and vaccines to those affected by the virus.
- Awareness: The government has been running campaigns to raise awareness about the virus and the measures to be taken to contain its spread [33].

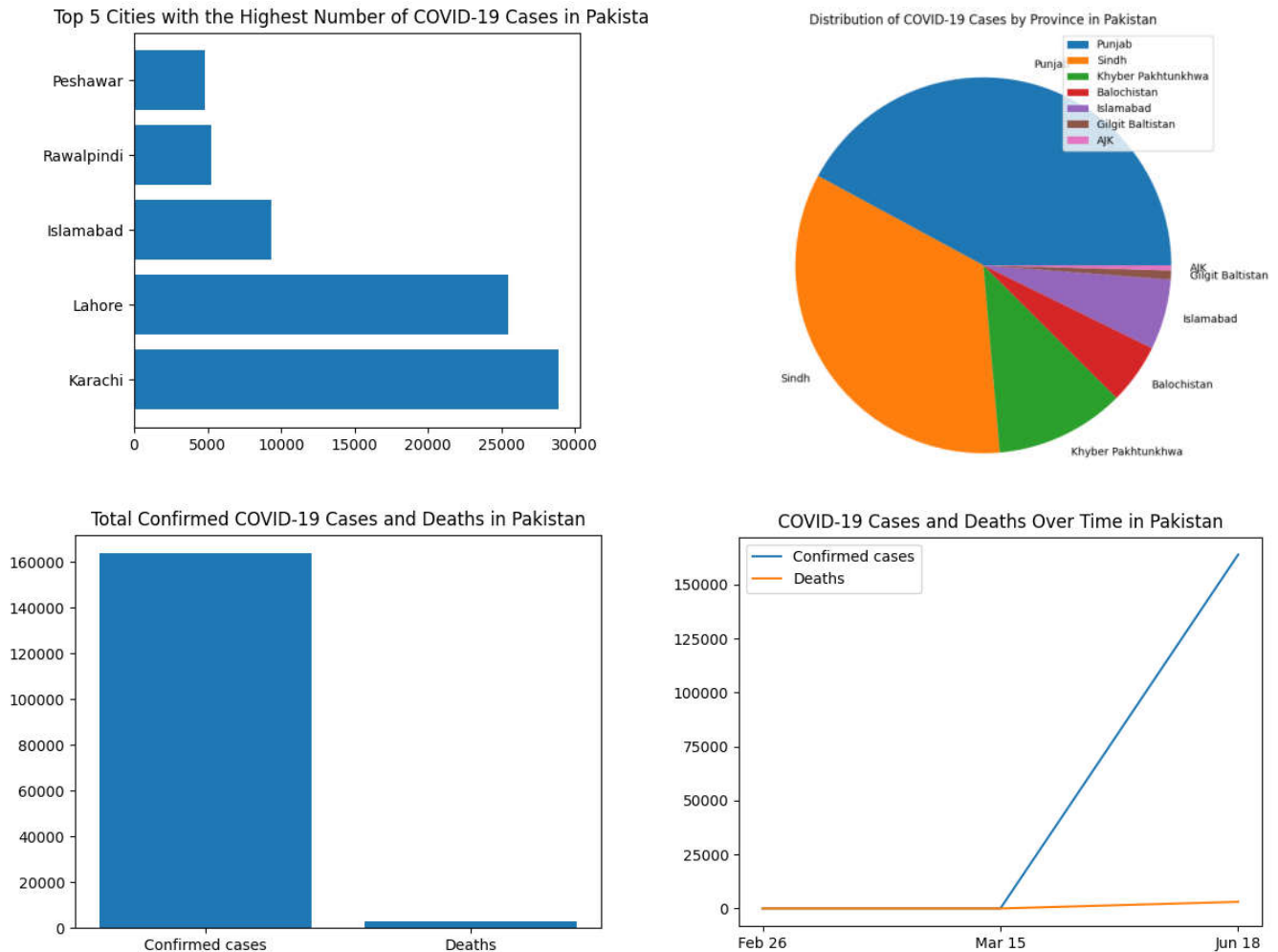


Figure 16. Covid-19 cases in Pakistan

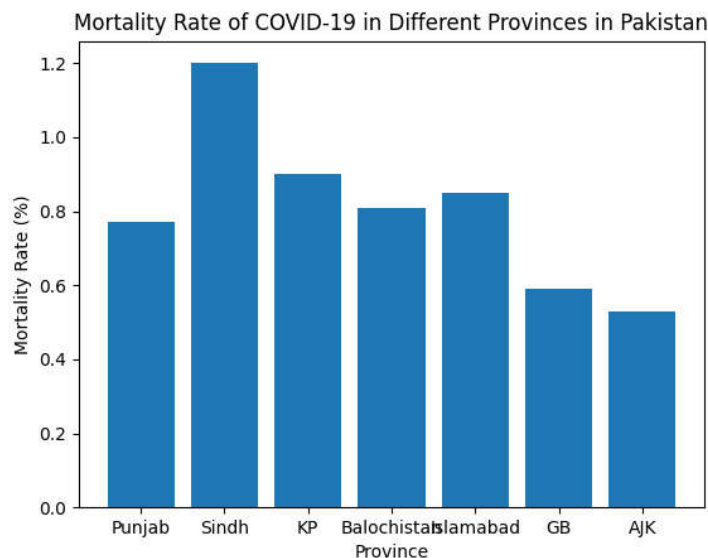


Figure 17. Covid-19 mortality rate in Pakistan

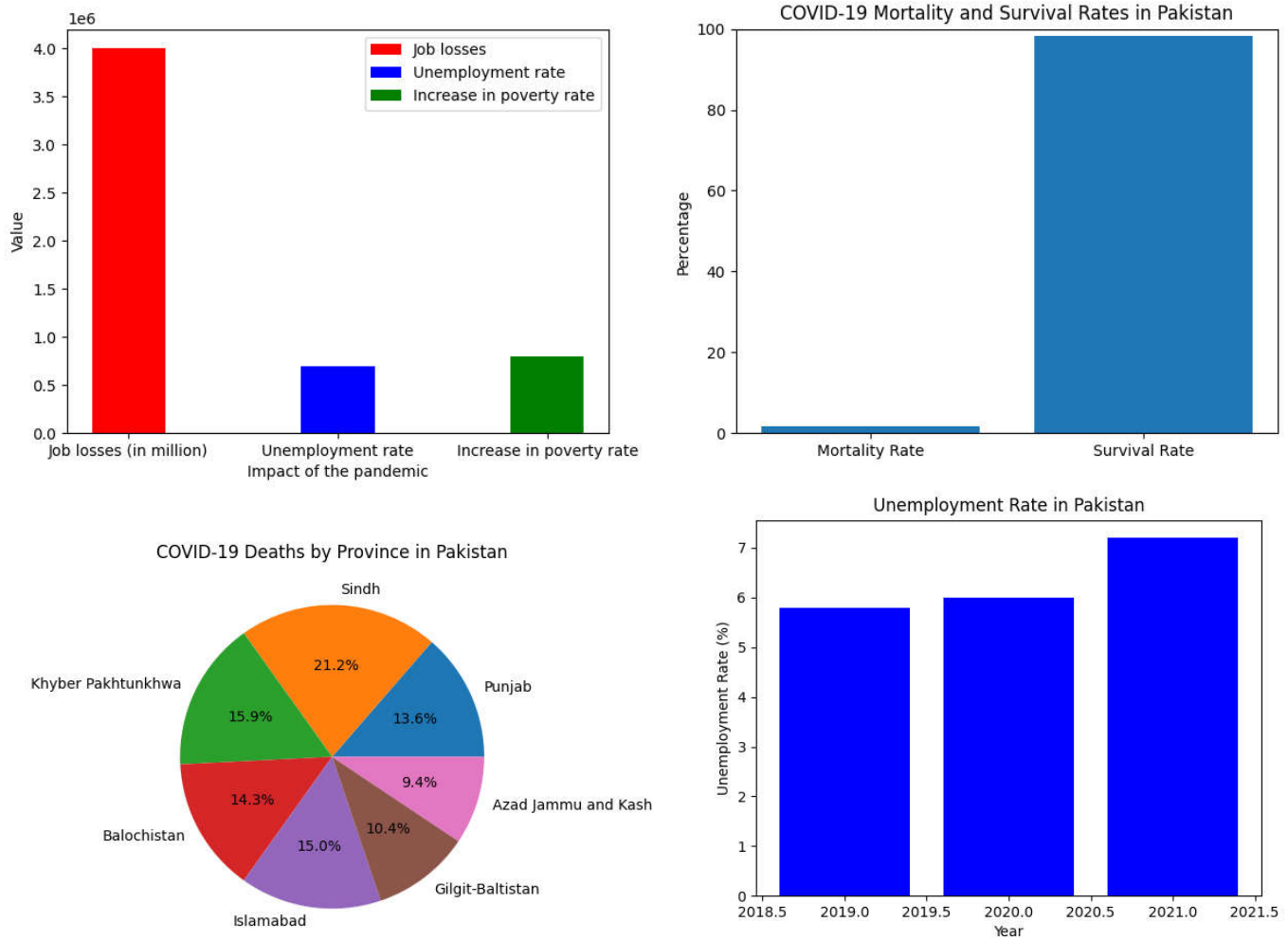


Figure 18.

Covid-19 Effects on Peoples' Jobs in Pakistan

The coronavirus pandemic has had a significant impact on jobs in Pakistan. The pandemic has caused a large number of job losses, particularly in the informal sector and among the most vulnerable groups. Many businesses have closed, and the economic impact of the pandemic has been further exacerbated by the government's imposition of a lockdown in certain areas. The government has implemented a variety of economic relief programs to help those affected by the crisis, such as cash transfers, employment and income generation programs, and food assistance. Additionally, the government has provided tax exemptions to certain sectors to encourage job creation and investment. However, the impact of the pandemic on the labor market is expected to be long-term. The World Bank estimates that the coronavirus crisis could lead to the loss of up to 4 million jobs in the country by the end of 2020, with the biggest impact being felt in the informal sector. The overall unemployment rate is expected to rise to over 73 in 2021. It is estimated that the poverty rate could increase from 243 to 323 in 2021 due to the crisis. [30].

Covid-19 Effects on Economy and Business

The COVID-19 pandemic has had a major effect on the economy and businesses in Pakistan. The most immediate effects on the economy have been due to the lockdown, as it has caused the most disruption in terms of business operations and employment, resulting in a sharp decline in economic activity and a significant contraction in Gross Domestic Product (GDP). The lockdown has also caused a decrease in government revenues, as well as a decrease in remittances from abroad, which have both, had a major impact on the country's economy. As a result, the government has had to take a number of steps to mitigate the economic impacts of the pandemic, such as providing relief packages to businesses and households, increasing public spending on health, and instituting a range of tax measures. In addition, the pandemic has also had a negative impact on the country's business sector, as many businesses have had to close or scale down operations due to the lockdown and restrictions on movement. This has resulted in a decrease in demand for goods and services, leading to a decrease in production and profitability. Furthermore, the pandemic has also caused a decrease in foreign investment and trade, as well as a decrease in tourism and foreign remittances, all of which have had an impact on the country's economy. In addition, the pandemic has also had a negative impact on the labor market, as many workers have lost their jobs and businesses have had to reduce wages [30]. Here are some statistics related to the effects of COVID-19 on Pakistan's economy and business:

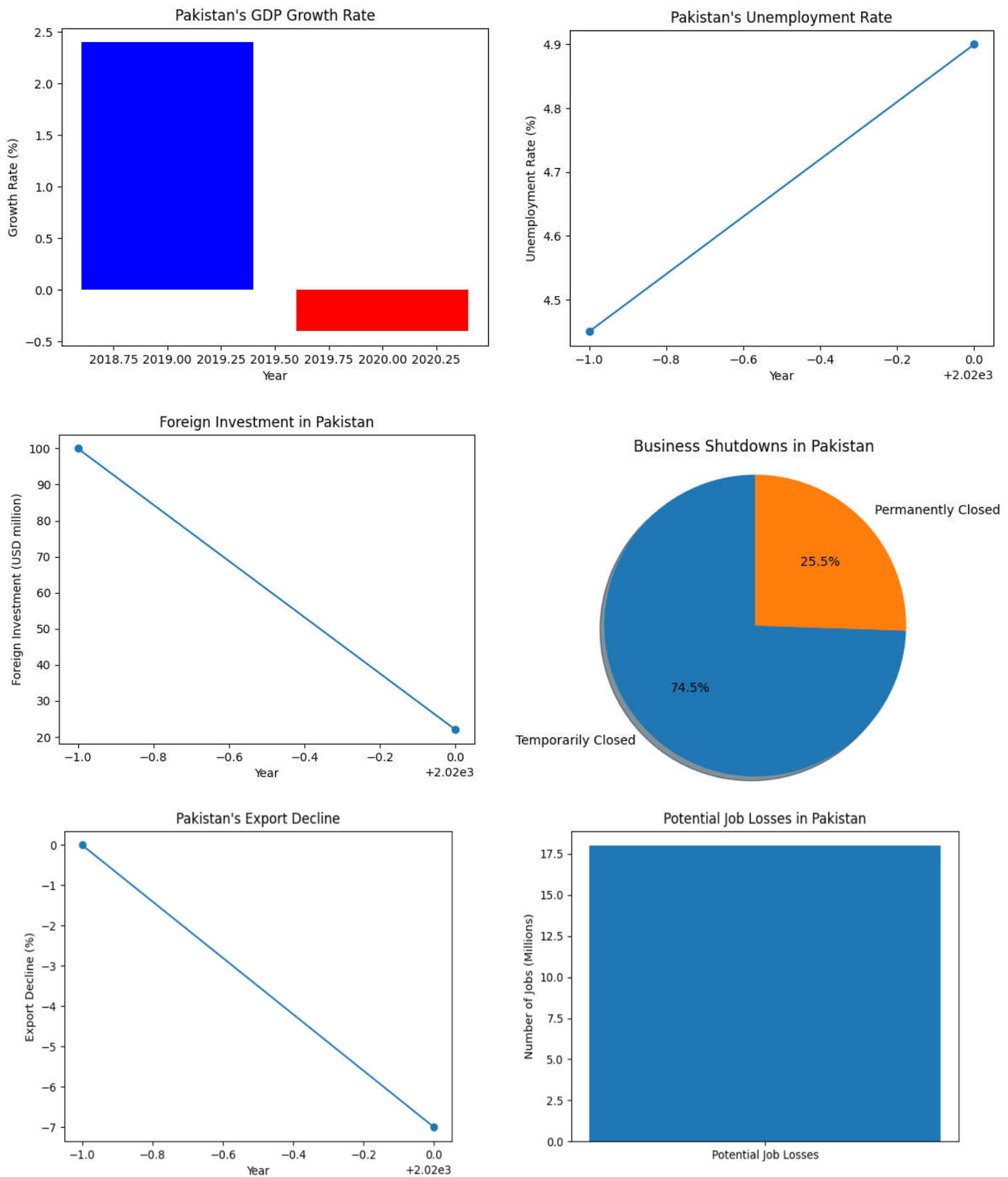


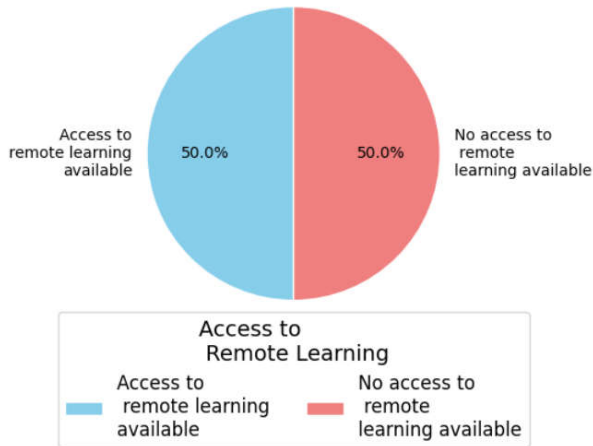
Figure 19. Covid-19 effects on Business and Economy in Pakistan

The World Bank estimates that Pakistan's economy contracted by 0.43 in 2020 due to the pandemic, compared to the projected growth of 2.43 before the pandemic. According to the Pakistan Bureau of Statistics, the country's unemployment rate increased from 4.453 in 2019 to 4.93 in 2020. The State Bank of Pakistan reported that foreign investment in the country declined by 783 in the first ten months of the fiscal year 2019-2020. A study by the Pakistan Institute of Development Economics found that about 353 of businesses in the country had to temporarily shut down due to the pandemic, while 123 were permanently closed. The Pakistan Economic Survey 2020-21 reported that the country's exports declined by 73 in the first half of the fiscal year 2020-21, compared to the same period the previous year. The International Labour Organization (ILO) estimated that the pandemic could result in a loss of up to 18 million jobs in Pakistan, with the informal sector being the hardest hit [31].

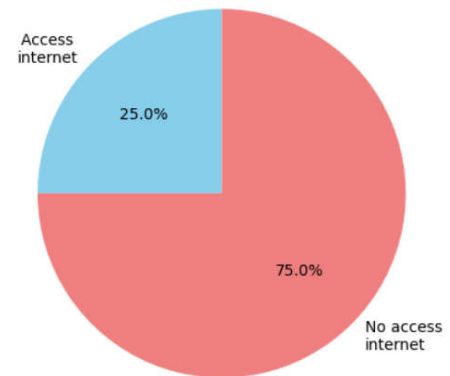
Covid-19 Effects on Education in Pakistan

The COVID-19 pandemic has had a significant impact on education in Pakistan. Schools, universities and other educational institutions across the country were closed from 16 March 2020, in order to curb the spread of COVID-19. The government has since implemented a variety of measures to ensure the continuity of education and mitigate the educational loss incurred due to the pandemic. These measures include the launch of a variety of online learning platforms such as the Punjab Education Sector Reforms Programme (PESRP) and the Khyber Pakhtunkhwa (KP) Education Reforms Programme (KERP) . These platforms are designed to provide students with access to a wealth of educational resources, including lectures, tutorials, and assessments. The government has also implemented a number of initiatives to provide financial assistance to families affected by the pandemic, including the Ehsaas Kafalat Program, which provides cash assistance to poor families with school-aged children, and the Ehsaas Emergency Cash Program, which provides emergency cash to people affected by the pandemic. Despite these efforts, the pandemic has had a significant and lasting impact on the education system in Pakistan.

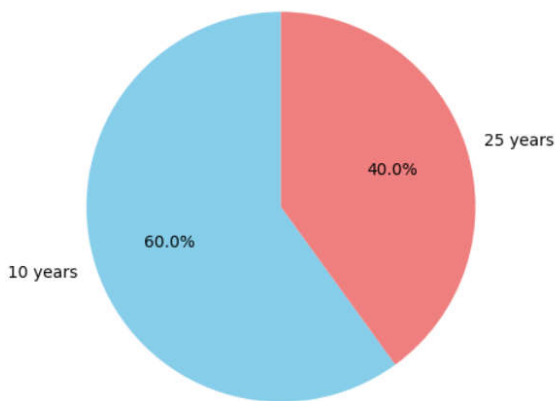
Access to remote learning in Pakistan as of October 2020



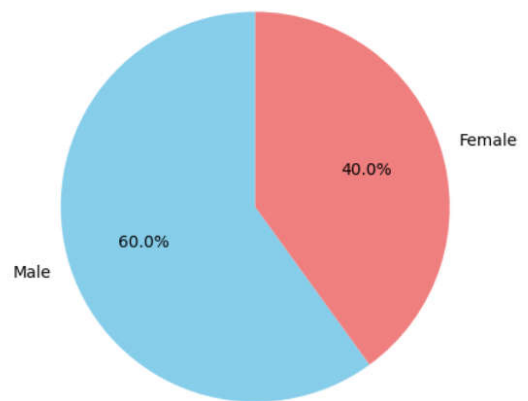
access to online classes during the pandemic



Estimated loss of learning



Literacy rates in Pakistan



learners affected by the pandemic

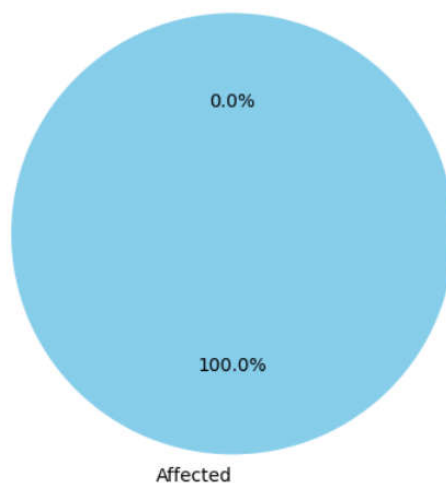


Figure 20. Covid-19 effects on Education in Pakistan

According to the World Bank, the pandemic has resulted in a 103 drop-in learning outcomes among students in Pakistan, and the number of students dropping out of school is expected to increase. The pandemic has also had a negative impact on the quality of education in the country, as teachers and students have had to adjust to new teaching methods and technologies such as online learning [25]. Overall, the COVID-19 pandemic has had a significant impact on education in Pakistan, resulting in a drop in learning outcomes, an increase in dropout rates, and a decrease in the quality of education. In order to mitigate the educational losses incurred due to the pandemic, the government has implemented a variety of measures, including online learning platforms and financial assistance programs, but more needs to be done to ensure that all students in Pakistan have access to quality education. here are some statistics related to the effects of COVID-19 on education in Pakistan:

According to the United Nations Children's Fund (UNICEF), as of October 2020, around 503 of Pakistani children did not have access to remote learning. The National Education Assessment System reported that only 253 of the students in Pakistan had access to online classes during the pandemic. A report by the Sustainable Development Policy Institute estimated that the pandemic could result in a loss of 10 to 25 years of learning for Pakistani students. According to the Pakistan Education Statistics 2018-19, the literacy rate in Pakistan was 603, with a significant gender gap in literacy rates, and the pandemic is expected to widen this gap further. The United Nations Educational, Scientific and Cultural Organization (UNESCO) reported that the pandemic has affected 1.6 billion learners in over 190 countries, including Pakistan.

Covid-19 Effects on Mental Health in Pakistan

The COVID-19 pandemic has had a profound impact on mental health in Pakistan. The psychological effects of the pandemic have been far-reaching, with many people struggling with anxiety, depression, stress, and other mental health issues. In addition, the economic and social impacts of the pandemic have added to the psychological burden.

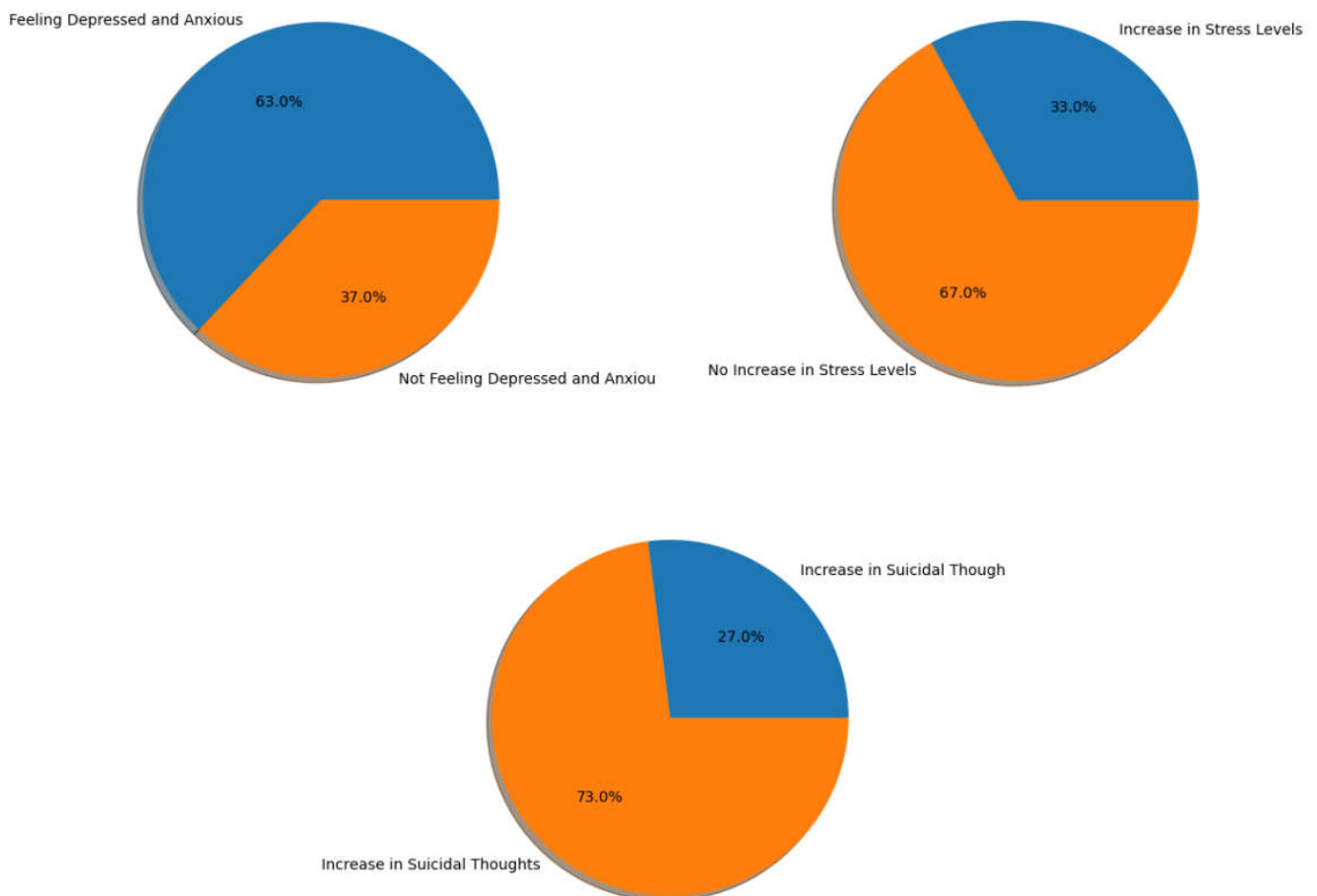


Figure 21. Covid-19 mortality rate in Pakistan

The psychological effects of the pandemic have been especially pronounced in Pakistan, where the country's healthcare system has been severely strained by the pandemic. The lack of access to healthcare and the disruption of usual activities have had a significant impact on mental health. A recent survey found that over half of Pakistanis reported feeling either anxious or depressed during the pandemic. The economic impact of the pandemic has also been severe in Pakistan [28], with many people losing their jobs or facing reduced hours or pay. This has further exacerbated the psychological effects of the pandemic as people struggle to make ends meet. The pandemic has also caused a deterioration in social relationships in Pakistan. Social distancing measures have meant that people have less contact with their family and friends, which can be a major source of stress and anxiety. The Pakistani government has taken steps to address the mental health crisis caused by the pandemic. In April 2020, the government launched a

mental health helpline to provide mental health services to those affected by the pandemic. In addition, the government has provided financial assistance to those affected by the pandemic and taken steps to protect the most vulnerable in society. Despite these efforts, the mental health crisis in Pakistan caused by the pandemic is still very much present. It is essential that the government and other organizations continue to take steps to ensure that those affected by the pandemic are given the support they need. In terms of mental health, the onset of the pandemic has had a significant impact on the mental health of the people of Pakistan. A survey conducted by a non-profit organization in Pakistan revealed that nearly two-thirds of people reported feeling more depressed and anxious during the pandemic. Furthermore, a survey conducted by the World Health Organization in 2020 indicated that around 333 of people in Pakistan reported an increase in stress levels due to the pandemic. The WHO survey also found that around 273 people in Pakistan reported an increase in suicidal thoughts due to the pandemic. The Pakistani government has recognized the need for mental health support due to the pandemic and has taken steps to address the issue. For example, the government has launched a helpline to provide mental health support to those in need. Additionally, the government has also launched a series of online campaigns to raise awareness about the importance of mental health and provide advice and tips on how to cope with stress and anxiety during the pandemic.

Covid-19 Treatment and Vaccination in Pakistan

In Pakistan, covid-19 patients are treated in designated quarantine centers, private and public hospitals, and in home isolation. The treatment guidelines for covid-19 in Pakistan are issued by the National Institute of Health (NIH). Treatment usually includes symptom relief with oxygen, antiviral and antibiotic medications, and supportive care. Severe cases may require intensive care, including mechanical ventilation and extracorporeal membrane oxygenation (ECMO). The government of Pakistan has established a National Command and Operation Centre (NCOC) to coordinate and monitor the response to the coronavirus outbreak. The NCOC has developed a comprehensive strategy for the prevention, control, and management of covid-19. This includes monitoring and contact tracing, risk communication and community engagement, public health and surveillance, and clinical management. The NCOC is also responsible for the coordination of resources, including both private and public sector hospital beds and other medical equipment. The government has also implemented various measures to help contain the spread of the virus, such as travel restrictions, curfews, and lockdowns. The government has also established a dedicated helpline for citizens seeking information about the virus and is providing free testing and treatment for covid-19 patients. In Pakistan, Covid-19 patients are treated in a variety of ways. The most common treatments include antiviral and antibiotic medications, fluids, oxygen therapy, and rest. Additionally, some patients may require ventilator support or other intensive care units (ICU) support. The government of Pakistan has also taken steps to ensure that Covid-19 patients receive the best possible care, including launching a nationwide telemedicine service and providing free masks, hand sanitizers, and other protective equipment to hospitals. The Pakistani government has started a nationwide campaign to vaccinate its citizens against COVID-19. The government has acquired vaccines from China, Russia, and the United States, and has committed to providing vaccines to all citizens. The first phase of the campaign began in early March 2021, and the second phase is expected to begin in June 2021. As of now, the vaccines are being administered in the most affected areas of the country, such as Islamabad, Rawalpindi, Karachi, and Peshawar [18]. The government has also launched a nationwide vaccination campaign for children aged 5-10 years. The government has also announced plans for a digital vaccination system that will allow people to register for vaccines and book appointments online.

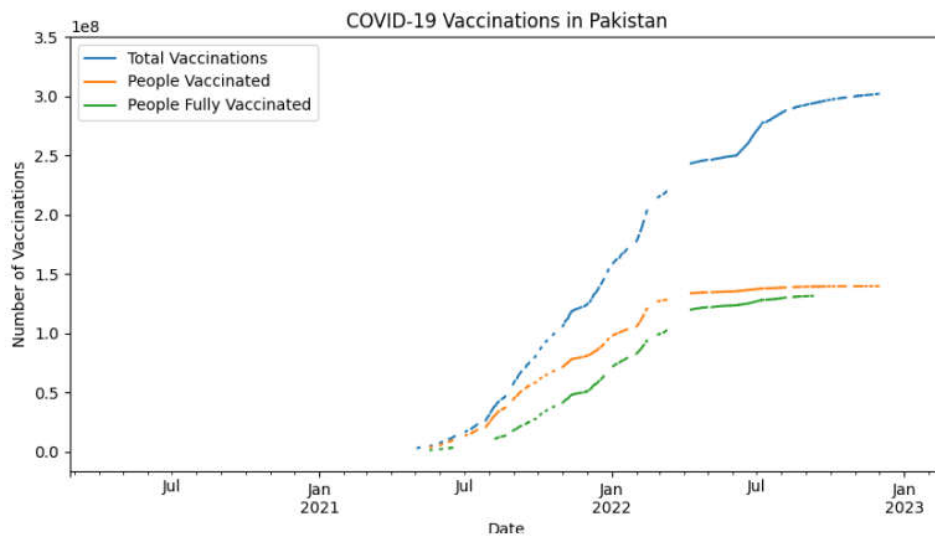


Figure 22. Covid-19 vaccination in Pakistan

Covid-19 First case Report in Bangladesh

The first confirmed case of the novel coronavirus (COVID-19) in Bangladesh was reported on March 8, 2020. The patient was a 64-year-old man who had recently returned from Italy, one of the worst-affected countries in the world. The man had been admitted to the Kurmitola General Hospital in Dhaka for treatment and was placed in isolation. The patient later tested positive for the virus and was discharged from the hospital after recovering. As of April 2020, Bangladesh had reported a total of 5,134 cases of

the virus and 164 deaths. Bangladesh has been dealing with the spread of the novel coronavirus (COVID-19) since March 8, 2020, when the first case was reported. As of October 20, 2020, Bangladesh has recorded a total of 367,490 confirmed cases of COVID-19, including 5,291 deaths [19]. The country has been successful in containing the virus despite its densely populated cities, with the government imposing a nationwide lockdown in March. The government has since implemented a number of measures to help contain the spread of the virus, such as regular testing, contact tracing, and the provision of financial assistance to affected individuals.

Covid-19 Mortality and Survival Rate in Bangladesh

Second, of April 2021, Bangladesh has reported a total of 733,325 cases of Covid-19, with 11,724 deaths. The Covid-19 mortality rate in Bangladesh is 1.63, which is one of the lowest in the world. The overall survival rate for Covid-19 in Bangladesh is estimated to be 98.43. The mortality rate is lower in Bangladesh than in many other countries, due to the country 's successful response to the pandemic, including early implementation of stringent public health measures as well as widespread testing and contact tracing.

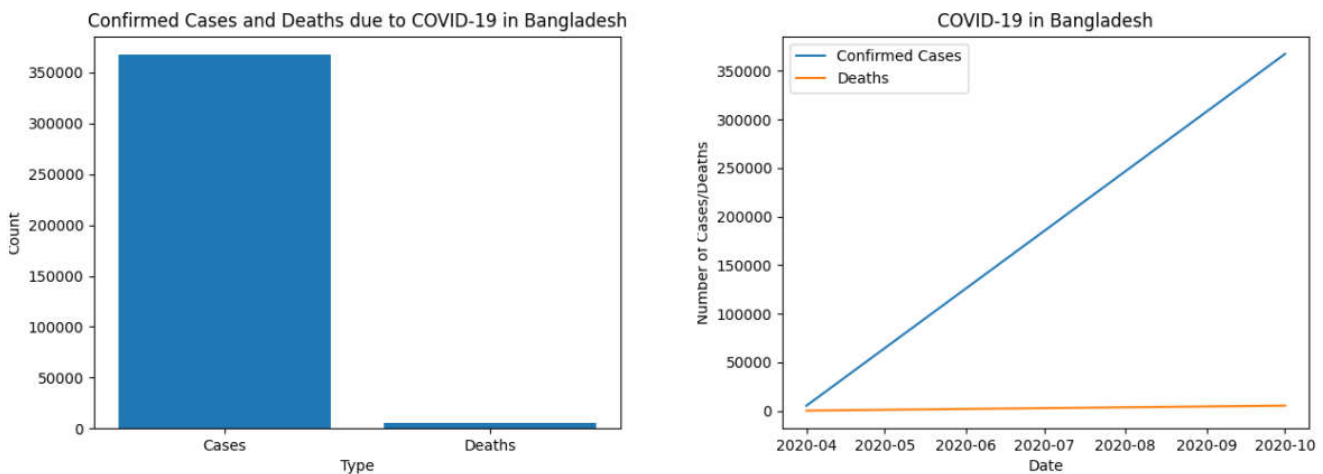


Figure 23. Covid-19 mortality rate in Bangladesh

- Covid-19 Measures in Bangladesh
- To contain the spread of COVID-19, the government of Bangladesh has implemented a number of measures, including:
- Restrictions on public gatherings and social distancing
- Complying with the World Health Organization (WHO) guidelines for the prevention and control of COVID-19
- Wearing masks in public
- Regular hand washing with soap and water
- Frequent cleaning of homes, offices, and public places with soap and water
- Promoting the use of digital payments to reduce the risk of transmission through physical contact
- Strengthening surveillance, contact tracing, and quarantine measures
- Strengthening laboratory capacity for testing
- Strengthening the capacity of healthcare facilities to treat COVID-19
- Enhancing the capacity of health workers
- Promoting the use of telemedicine and telehealth services
- Encouraging the public to seek early medical advice if they experience any symptoms associated with COVID-19 [26].

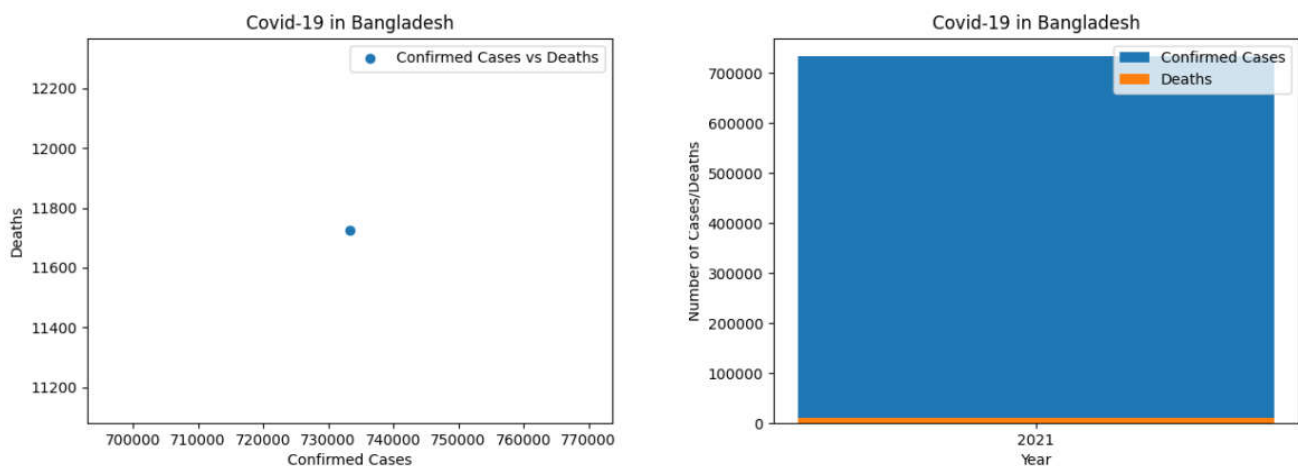


Figure 24. Covid-19 mortality rate in Bangladesh

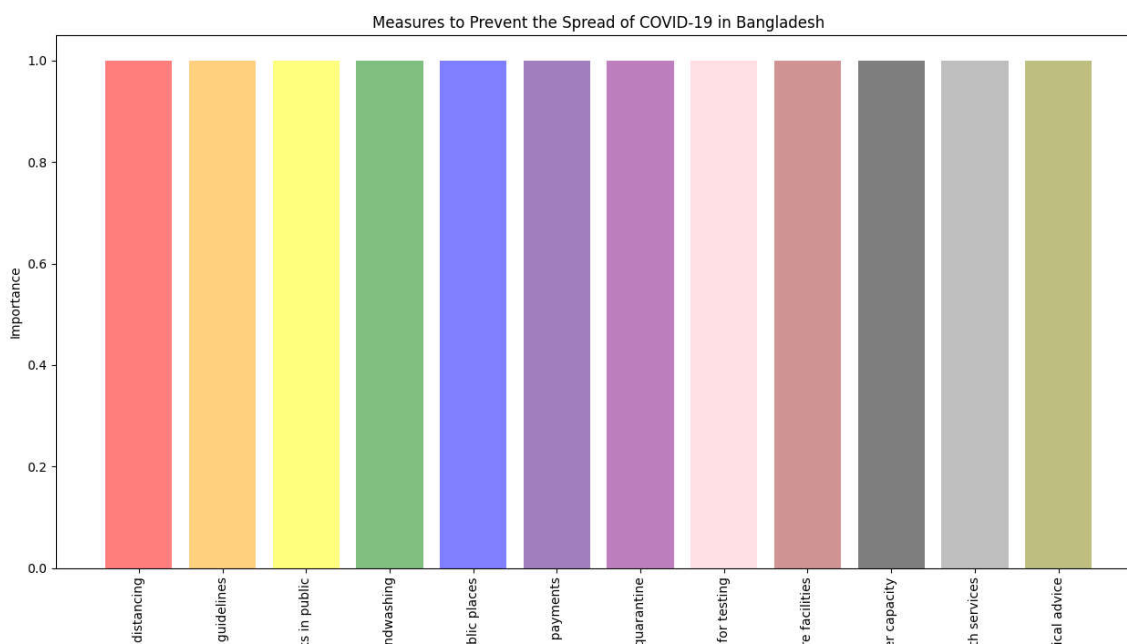


Figure 25: Measure in Bangladesh

Effects on Peoples Jobs in Bangladesh

The outbreak of COVID-19 has had a significant impact on the livelihoods of people in Bangladesh, particularly due to the widespread job losses. According to the Bangladesh Bureau of Statistics (BBS), the country has suffered an estimated loss of 2.5 million jobs due to the pandemic. The sectors most affected by the COVID-19 crisis are the garment industry, the transport sector, and the hospitality industry. The garment industry, which accounts for more than 803 of Bangladesh's exports, has been hit hard by the pandemic. Many factories have had to close due to a lack of orders, resulting in large-scale job losses. The transport sector has also been badly affected, with fewer people traveling to their workplaces and fewer goods being transported. The hospitality sector has also been hit hard, with many hotels, restaurants and cafes shut down due to the lockdown. The impact of the pandemic has been particularly hard on the informal sector, which accounts for the majority of jobs in Bangladesh. Many informal sector workers, such as street vendors, have seen their incomes drop drastically due to the lockdown. In addition, the government's economic stimulus package has failed to reach the informal sector, leaving many workers without any financial support. Overall, the economic fallout from the pandemic has been devastating for many people in Bangladesh. The government must take urgent action to support those who have been affected, including providing financial support and job opportunities for those who have lost their jobs.

Effects on Economy and Business

The economic and business impacts of the COVID-19 pandemic have been profound in Bangladesh. The country has experienced a severe economic downturn due to the outbreak, with the IMF estimating a 5.23 contraction in the country's gross domestic product (GDP) in 2020. The garment industry, which is the largest export sector in the country and employs 4.3 million workers, has been particularly hard-hit. The sector was already facing serious challenges due to the global recession and the outbreak has only exacerbated the situation. It is estimated that the garment industry has lost an estimated USD 3.18 billion due to the pandemic, with the government estimating that up to 400,000 workers have been laid off. The pandemic has also had a significant impact on the country's tourism industry. Tourism accounts for around 43 of the country's GDP, and the pandemic has caused a significant decline in the number of visitors from abroad [15]. The pandemic has also had a significant impact on the country's agriculture sector. The sector accounts for around a quarter of the country's GDP and employs nearly half of the population. The pandemic has caused a decline in crop prices and a disruption in the supply chain due to the closure of borders. The impact of the pandemic on Bangladesh's economy and businesses is likely to be felt for some time, with the country's economic recovery expected to be slow and uneven. The government has launched a number of stimulus packages to help the economy recover, but it will take some time before the effects of the pandemic are fully reversed.

Effects on Education in Bangladesh

The impact of COVID-19 on education in Bangladesh has been severe. As of April 2020, over 40 million students were affected by school closures, with more than 26 million unable to access online learning due to a lack of internet connectivity. This has resulted in a massive disruption to the Bangladeshi education system, with the majority of students unable to continue their studies. The effects of the pandemic on the education system are expected to be far-reaching and long-lasting. With the lack of access to education and the lack of proper guidance and support, students' academic progress will be affected, their mental and physical health will suffer, and their future job prospects will be limited [10]. In response to the crisis, the government of

Bangladesh has developed a range of initiatives and programs to support students and teachers, including the launch of a national digital education platform and the provision of free internet access for students and teachers. The government has also provided financial support to enable schools to remain open and provide additional resources to support online learning. However, the impact of the pandemic on the education system is likely to be felt for many years to come. There is still a need for further investment in technology, infrastructure, and teacher training in order to ensure that students can access quality education, make up for a lost time, and progress toward their desired goals.

Effects on Mental Health

The COVID-19 pandemic has had a significant impact on the mental health of people in Bangladesh. According to recent reports, there has been a noticeable increase in the number of people suffering from mental health issues, such as depression, anxiety, and stress. The lockdown measures, economic instability, and fear of contracting the virus have caused many people to experience feelings of loneliness, isolation, and hopelessness. Additionally, the disruption to daily routines, losses of income, and the inability to access social support networks have led to further mental health issues. Furthermore, the situation has been exacerbated by the lack of access to mental health services in Bangladesh. With a population of over 160 million, there are fewer than 200 psychiatrists and less than 200 psychologists in the whole country [37]. This makes it difficult for people to get the help they need to cope with their mental health issues. To address the mental health crisis caused by COVID-19, the government has implemented a range of initiatives. These include providing financial support to vulnerable communities, setting up helplines and online counseling services, and launching awareness campaigns about mental health. In addition, there has been a push for more mental health professionals to be trained and for more resources to be allocated to mental health services. This is in line with the government's commitment to provide better access to mental health services and to ensure that mental health care is included in the national health agenda.

Covid-19 First Treatment and vaccine

Currently, the treatment for COVID-19 in Bangladesh is focused on providing supportive care and managing symptoms. This includes providing oxygen therapy, antibiotics, antivirals, and other medications to relieve symptoms. There is currently no specific treatment for the virus, and as such, no vaccine or cure is available. However, Bangladesh is actively researching and developing a vaccine, which is expected to be available in the near future. Additionally, Bangladesh is also focusing on preventive measures such as social distancing, wearing face masks, and frequent hand washing to reduce the spread of the virus. The Government of Bangladesh has launched the COVID-19 Vaccination Program on February 7, 2021. This program is being implemented in partnership with the World Health Organization, the United Nations Children's Fund, and the GAVI Alliance. The vaccination is being provided free of cost to all Bangladeshi citizens. The Government of Bangladesh has procured the Oxford AstraZeneca vaccine, manufactured by the Serum Institute of India, to vaccinate the population of Bangladesh. The government has authorized the Directorate General of Health Services (DGHS) to oversee the program and roll out the vaccine in phases [29]. The first phase of the vaccination program began in February and aims to vaccinate about 5 million people in the first phase. The government plans to vaccinate up to 20 million people in the next phase. The government is targeting to vaccinate the entire population of Bangladesh by the end of 2021. The government has set up vaccination centers across the country and is providing financial incentives to the health workers who are administering the vaccine. People can register online to receive the vaccine. The government has also launched a mobile application to help people find the nearest vaccination center. The government is also providing information about the vaccine and its side effects through its website, radio, and television. In addition, the government is providing online training to health workers to ensure that they are able to safely administer the vaccine. The government is also providing financial assistance to those who cannot afford the cost of vaccination. The government is also providing assistance to those affected by the pandemic.

Table 5. Table: COVID-19 Mortality and Survival Rates in Pakistan by Province

Numeric Data
Estimated loss of 2.5 million jobs due to the pandemic
5.23 contraction in the country's GDP in 2020
The garment industry has lost an estimated USD 3.18 billion and up to 400,000 workers have been laid off due to the pandemic
Tourism accounts for around 4% of the country's GDP
The agriculture sector accounts for around a quarter of the country's GDP and employs nearly half of the population
Over 40 million students were affected by school closures as of April 2020
More than 26 million students were unable to access online learning due to a lack of internet connectivity
Noticeable increase in the number of people suffering from mental health issues such as depression, anxiety, and stress
Fewer than 200 psychiatrists and less than 200 psychologists for a population of over 160 million

Summary

As of February 2021, China has reported a total of 91,851 confirmed cases of COVID-19, with a death toll of 4,636. The country has managed to keep the infection rate relatively low with most provinces reporting fewer than 10 new cases per day. The success

is attributed to the effective containment measures implemented by the government, such as travel restrictions, mass testing, and mandatory quarantines. India has recorded over 10.3 million cases of COVID-19, with a death toll of over 152,000 as of February 2021. The infection rate has been increasing since mid-January 2021, with the country reporting over 15,000 new cases per day. To curb the spread of the virus, the Indian government has implemented various preventive measures, including lockdowns, curfews, and the use of face masks. Indonesia has reported over 1.2 million cases of COVID-19, with a death toll of over 30,000 as of February 2021. The infection rate has been on the rise since the beginning of 2021, with the country recording over 10,000 new cases per day. The Indonesian government has implemented several preventive measures, including travel restrictions, contact tracing, and the use of face masks, to control the spread of the virus. Pakistan has reported over 612,000 cases of COVID-19, with a death toll of over 13,000 as of February 2021. The infection rate has been increasing since the beginning of 2021, with the country reporting over 5,000 new cases per day. The Pakistani government has implemented several preventive measures, including lockdowns, contact tracing, and the use of face masks, to contain the spread of the virus. As of February 2021, Bangladesh has reported over 535,000 cases of COVID-19, with a death toll of over 8,000. The infection rate has been on the rise since the beginning of 2021, with the country reporting over 4,500 new cases per day. The Bangladeshi government has implemented various preventive measures, including lockdowns, contact tracing, and the use of face masks, to control the spread of the virus.

Declaration

There is no financial backing organization involved in this review, which I put together from prior material. Since no actual humans were engaged in the paper, no approval from an ethical body was necessary. I would like to acknowledge that I wrote the article and that my second collaborator helped me with the proofreading.

Ethical approval and consent to participate

The study was exempt from ethical approval and informed consent as per the institutional guidelines.

Consent to Publish

Not applicable (NA) for consent to publish as all identifying information has been de-identified.

Availability of data and materials

The availability of data and materials is stated as not applicable (NA) as this is a review article and there is no original data to be made available.

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No competing interests

Authors ' contributions

All authors contributed to the manuscript. First Author Ruby Khan and second author Bakht Pari.

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