A Statistical Review of the Impact of COVID-19 on the World

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Abstract: *The COVID-19 epidemic has caused an unparalleled era of disruption, significantly impacting public health, the environment, the economy, and civilizations globally. This data analysis offers a thorough examination of COVID-19's worldwide effects. Through statistical methods, it explores the epidemic's spread, mechanics of transmission, and social repercussions. In addition, it carries out quantitative research to comprehend how the pandemic affects society's behavior, healthcare systems, and the environment. To understand the substantial repercussions of the pandemic, the review combines many datasets and presents data from a reliable source. Through the analysis of both quantitative and qualitative data, this review focuses on the pandemic's effects from several perspectives, such as public health measurements, societal shifts, and environmental changes. The findings demonstrate the horrifying cost of human deaths and describe how society has adapted to new issues and routines. This transdisciplinary study additionally examines the data's graphical and tabular format, which comprises the total number of COVID-19 cases and fatalities that have been confirmed in nine different nations.*

Keywords: COVID-19, Public Health, Data Analysis, Pandemic, and Economic Stability.

1 Introduction

The COVID-19 pandemic affected the whole world, presenting a wide variety of challenges that significantly affected several nations in various ways. Governments throughout the world had to cope with a variety of concerns about social structures, public health, economy, and governance as the pandemic progressed. The consequences of the virus have varied and continue to change since every country has unique governmental policies, healthcare systems, socioeconomic conditions, and demography. Upon its initial appearance in late 2019, COVID-19 swiftly gained international attention, overloading healthcare systems and necessitating drastic measures to contain its spread. The virus spread throughout the world's continents, disrupting and forever altering societies. Some countries enforced rigorous lockdowns, rigorous

testing, and active contact monitoring strategies; other countries, without resources or with opposing political ideologies, struggled to react efficiently.

In addition to posing previously unknown obstacles to global health systems and the economy, the COVID-19 pandemic has sparked a significant deal of interest in mathematical modeling. The wide-ranging consequences of this viral pandemic have led researchers and experts in several fields to employ mathematical techniques and strategies to understand, predict, and mitigate its effects on international societies. A recent article on COVID-19 modeling a series of parameter values (rates) enhances an overview of some of the mathematical models in epidemiology that have been published in the literature. A mathematical model was created by Liu et al. [1] to forecast the COVID-19 outbreak in Wuhan, China. They projected the pandemic ahead with different intensities of public health interventions using the model. Liu et al. [2] modeled the COVID-19 corona-virus pandemic in China in a different study. To estimate the total number of reported cases to a final magnitude, they used data from early reported instances. The model's salient characteristics include the impact of asymptomatic infectious cases, the detection and isolation of unreported cases, and the timing of the introduction of significant governmental regulations limiting social movement.

A compartmental mathematical model for the COVID-19 disease's transmission was presented by Ndairou et al. [3], with a focus on the transmissibility of super-spreaders. By including the isolation class, Zeb et al. [4] created a mathematical model to depict the dynamic behavior of COVID-19 infection. Ming et al. [5] use a modified SIR epidemic model to estimate the actual number of infected cases and the unique demands placed on intensive care units and isolation wards. A new -SEIHRD model (not a SIR, SEIR, or other general-purpose model) was developed by Ivorra et al. [6] that considers the known special characteristics of this disease, such as the existence of infectious cases that go undetected and the varying sanitary and infectious conditions of hospitalized individuals. Nesteruk [7] created an epidemic model called SIR (susceptible, infected, and recovered). He also provided a statistical analysis of the model's parameters and demonstrated how to manage infection. The logistic growth regression model, which is used to estimate the eventual magnitude of the coronavirus epidemic, was explored by Batista [8]. Numerous scientists created several COVID-19 models and investigated dynamic behavior. Kolokolnikov and Iron [9] stated that the SEIR model is a basic dynamic model that explains how the disease spreads among populations.

A novel mathematical model was developed and analyzed by Riyapan et al. [10] to comprehend the dynamics of the COVID-19 pandemic's propagation in Bangkok, Thailand. It is divided into seven compartmental classes, namely, susceptible (S), exposed (E), symptomatically infected, asymptomatically infected, quarantined (Q), recovered (R), and death (D), respectively. A non-autonomous mathematical model for the transmission of the novel corona-virus disease (COVID-19) in Saudi Arabia was created and examined by Bachar et al. [11]. A deterministic compartmental model was presented by Gebremeskel et al. [12] to explain the dynamics of COVID-19 disease transmission. They analyzed the deterministic model both qualitatively and quantitatively about the local and global stability of the equilibrium points for endemic and disease-free phases. A mathematical model that revealed the COVID-19 transmission mechanism was created and theoretically analyzed by Haq et al. [13]. A mathematical model of COVID-19 including the effects of partly and completely vaccinated persons was developed by Aakash et al. [14].

The primary objective of this research is to examine and comprehend the effects of COVID-19 on society, environment, and public health, among other areas. This study aims to clarify how complicated and constantly evolving the pandemic's consequences have been for our global community through the use of statistical data.

My research question is "How much quantitative and qualitative data is necessary to accurately assess the intricate effects of COVID-19 on social behavior, environmental change, and public health globally?"

As seen by national differences in infection rates, mortality rates, and vaccination campaign efficacy, the COVID-19 pandemic had a substantial impact on public health. There has been a major disruption to the labor market, industry, supply chains, and global trade. The undue strain imposed on susceptible populations has intensified preexisting imbalances within and between countries. The purpose of this study's conclusions is to improve knowledge of the COVID-19 pandemic and facilitate the creation of evidence-based strategies to mitigate its effects and help in its containment.

Statistical investigation of the COVID-19 effect is interdisciplinary since it incorporates statistical tools, data analysis, and viewpoints from other fields to adequately understand the intricate ramifications of the pandemic. Statistical reviews contain data from many different fields, such as public health, environmental science, economics, and sociology. To provide a thorough picture of the pandemic's consequences, it integrates a wide range of datasets—health metrics, economic indicators, social behavior, environmental changes, and more—across academic boundaries. Statistical approaches offer a common language for analyzing and interpreting data from multiple sources. This allows for a thorough study that considers the interdependence of various socioeconomic factors impacted by COVID-19. The process involves using statistical tools to look for trends and patterns in datasets.

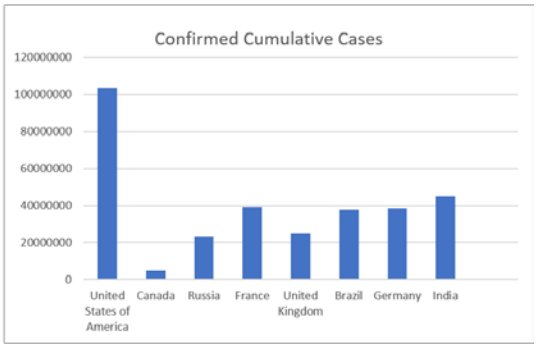
2 Impact of COVID-19 on Public Health

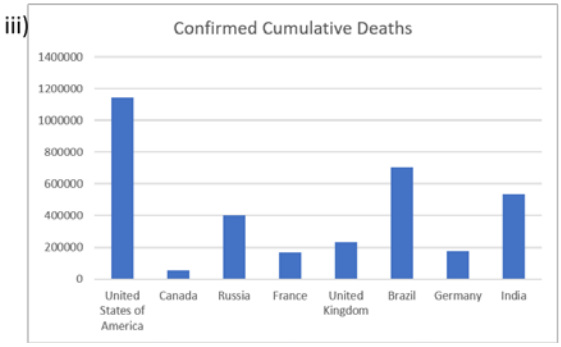
2.1 Statistical data and Analysis Globally

The COVID-19 pandemic has unquestionably had a significant influence on human history, changing the globe in ways never seen before and having an impact on all facets of civilization. Statistics became increasingly essential as countries battled the pandemic's many issues and came to understand the epidemic's far-reaching effects.

i)

Countries	Confirmed Cumulative cases	Confirmed Cumulative Deaths	Vaccine Doses
USA	103,436,829	1,144,877	711,813,790
Canada	4,731,777	53,255	99,034,734
Russia	23,258,444	400,488	187,374,508
France	38,997,490	167,985	158,060,078
United Kingdom	24,812,582	232,112	151,248,820
Brazil	37,519,960	702,116	515,827,664
Germany	38,437,756	174,979	193,241,457
India	45,002,179	533,300	2,208,365,081





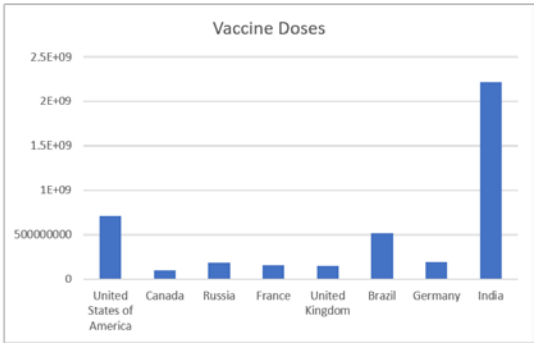


Figure 1: Global Situation of COVID-19 [source: WHO]

Through a thorough study of data sources, this data review examines the various facets of the COVID-19 pandemic, including its implications on public health, social dynamics, the environment, and more. By collecting and analyzing many datasets, this review aims to provide a comprehensive picture of the pandemic's global effects, highlighting both its tremendous impact and the lessons learned from managing an event of this scale. In terms of public health, the data highlights the enormity of illnesses, deaths, and the burden on global healthcare systems, all of which have a startling effect on human lives.

The global impact of COVID-19 is shown in Figure 1. According to statistics data from January 2020 to December 4, 2023 (source: WHO), the United States of America, Brazil, and India were the countries most affected by the COVID-19 pandemic. These nations had reported remarkably high numbers of confirmed cases and virus-related deaths. In the beginning of pandemic, the virus appeared unstoppable as it infected over millions of people and spread to over 100 countries [15]. For the most accurate and up-to-date information regarding COVID-19's impact in various countries, it is advisable to consult current, reliable sources like the World Health Organization (WHO). This is because the pandemic's situation is constantly changing due to a variety of factors, including evolving variants, vaccination campaigns, and public health strategies.

2.2 Statistical data and Analysis (Countries)

Throughout the pandemic, the number of COVID-19 cases in the United States increased dramatically. The United States reported its first COVID-19 case on January 23, 2020. The virus reached in Europe by January 25, 2020, when France reported the first case (WHO Report 5, 2020) [16]. Soon after, instances were also verified in Germany, and Italy (WHO Report 8, 2020) [17]. By the end of January, the virus had spread to 19 countries outside of China, with a total of 9,826 confirmed cases (WHO Report 11, 2020) [18]. In January 2021, the largest number of cases ever reported in a single day was recorded. In the same way, COVID-19 caused an extensive number of deaths every day in the nation. January 2021 had the greatest death toll of any given day, with the largest number of recorded deaths in a single day.

Confirmed cases and Deaths as per dates from January 2020 to December 2023 are depicted with the help of a graphical representation of nine different countries namely the United States of America, Canada, Russia, France, United Kingdom, Brazil, Germany, India, and Saudi Arabia (see Figure 2 to Figure 10). (source: World Health Organization).

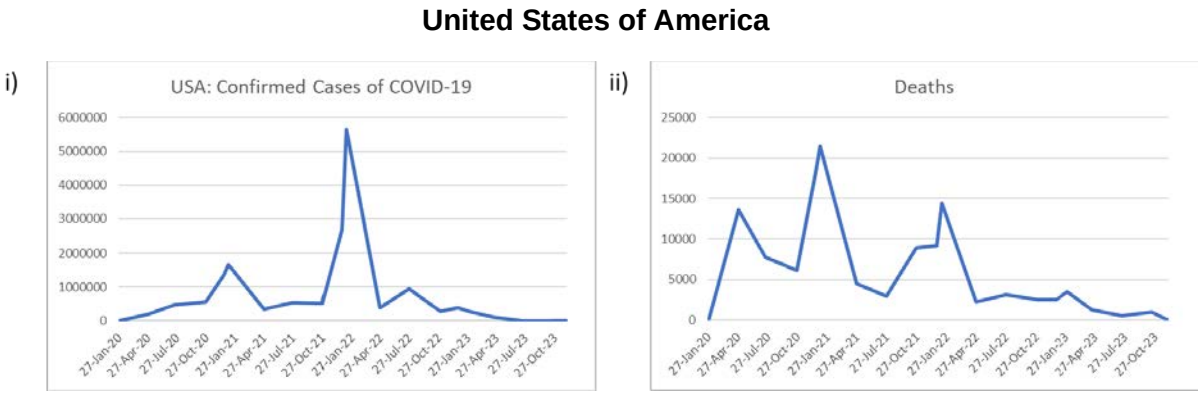


Figure 2: USA i) Confirmed Cases ii) Deaths

Canada

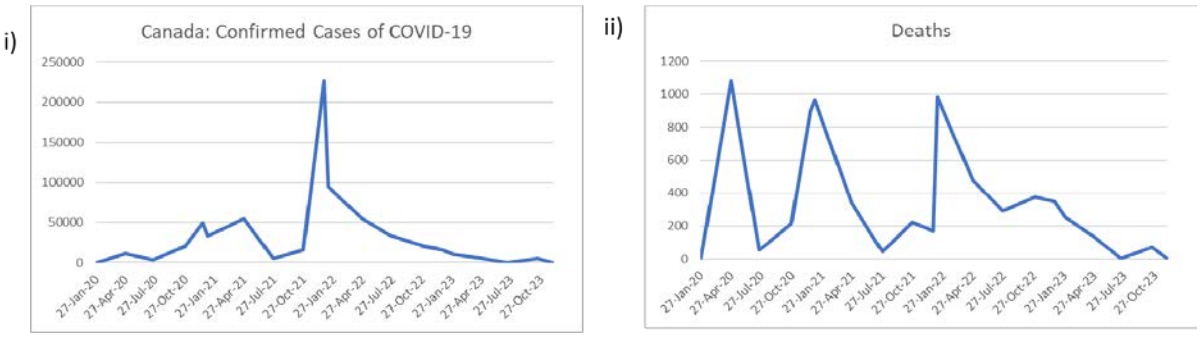


Figure 3: Canada i) Confirmed Cases ii) Deaths

Russia

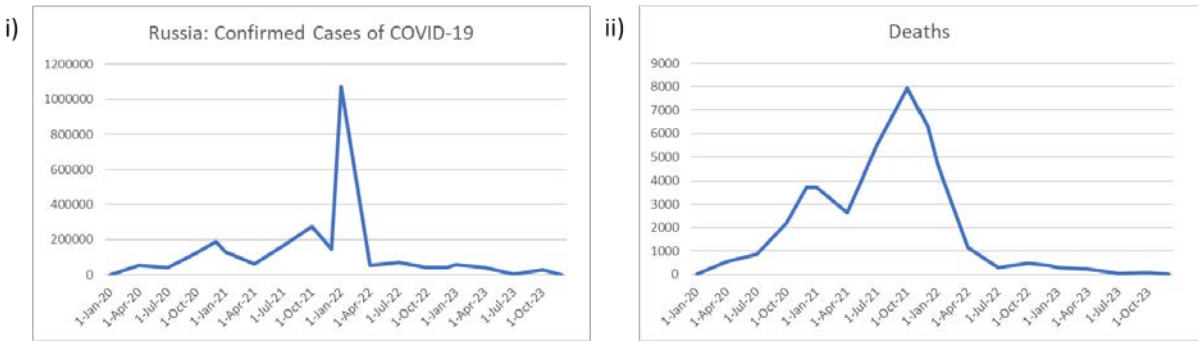


Figure 4: Russia i) Confirmed Cases ii) Deaths

France

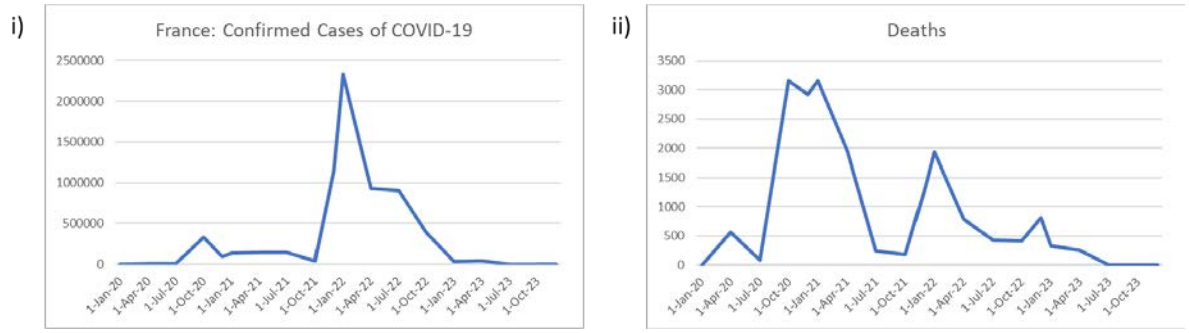


Figure 5: France i) Confirmed Cases ii) Deaths

United Kingdom

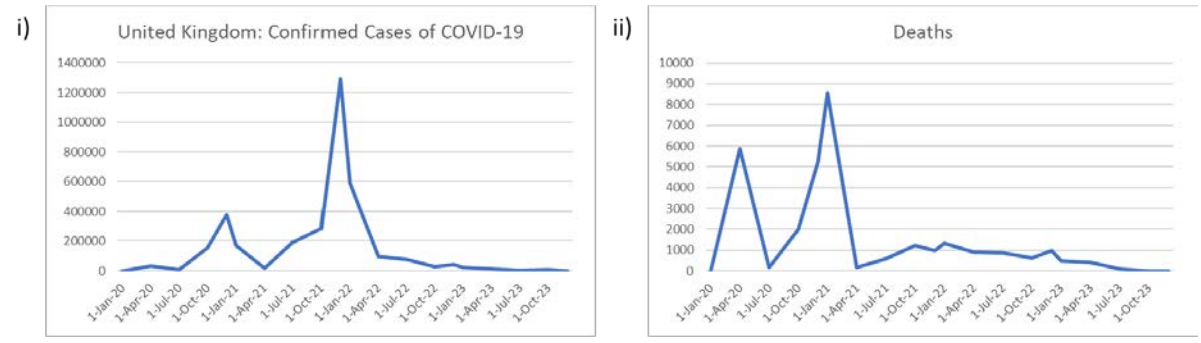


Figure 6: United Kingdom i) Confirmed Cases ii) Deaths

Brazil

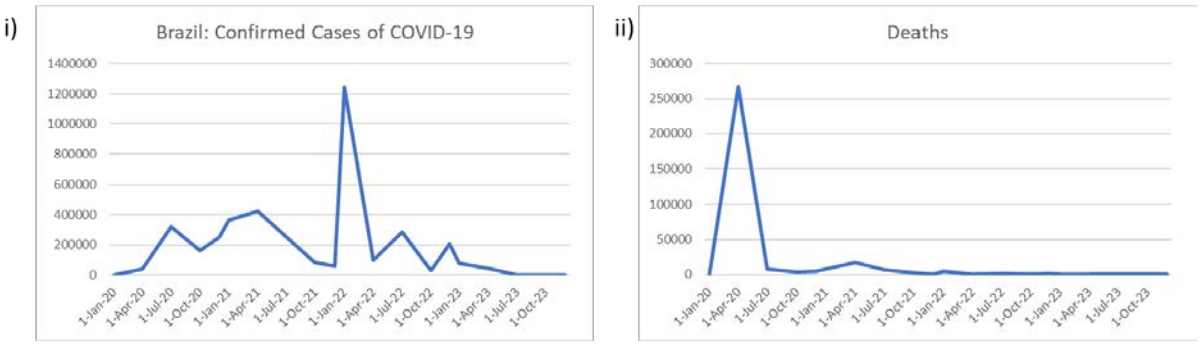


Figure 7: Brazil i) Confirmed Cases ii) Deaths

Germany

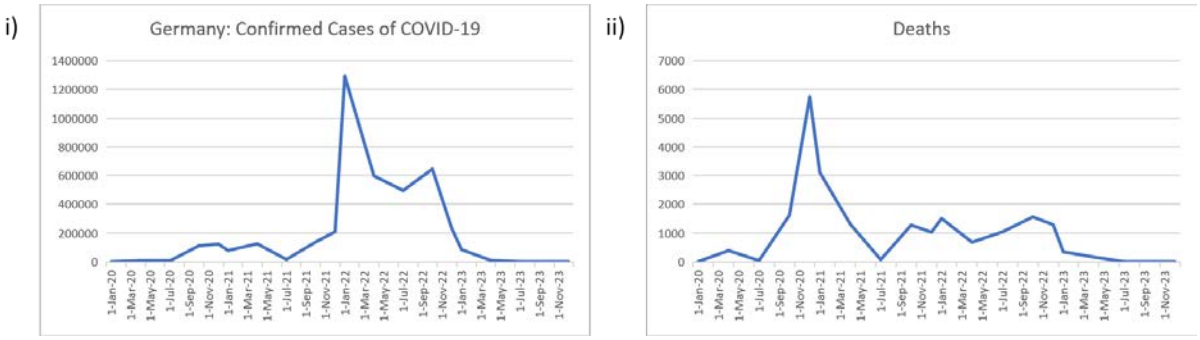


Figure 8: Germany i) Confirmed Cases ii) Deaths

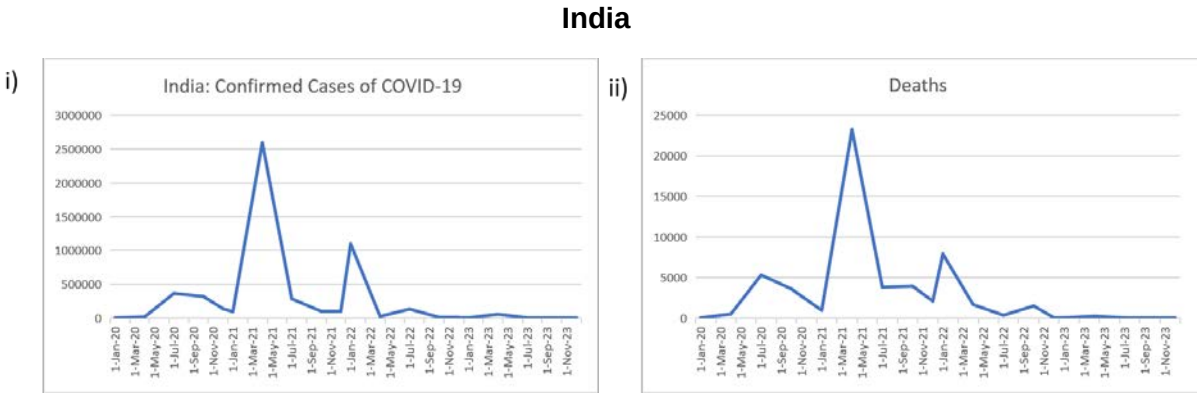


Figure 9: India i) Confirmed Cases ii) Deaths

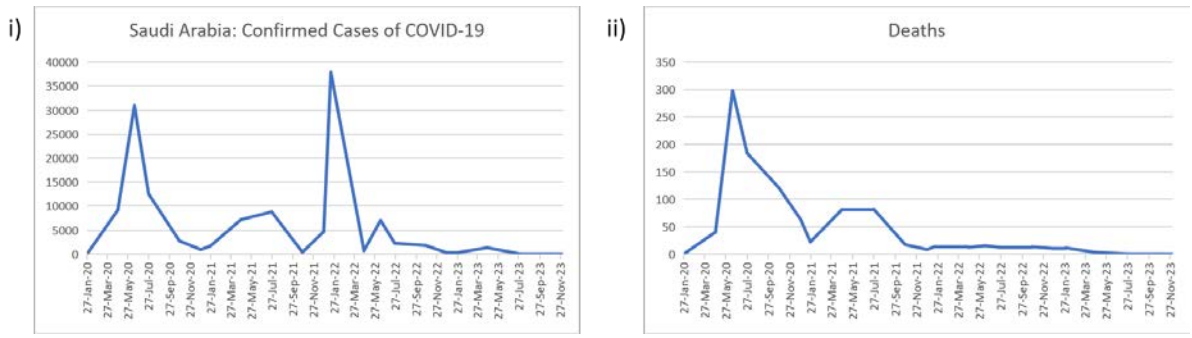


Figure 10: Saudi Arabia i) Confirmed Cases ii) Deaths

One of the nations most affected by COVID-19 was Brazil. The nation experienced a spike in illnesses and deaths, and the massive influx of people put a strain on its healthcare system. The severity of the crisis in Brazil was caused by reasons, including the country's enormous population, socioeconomic differences, difficulties implementing broad testing, and political conflicts that affected pandemic response plans. Prado et al. [19] investigated and explained the effects of COVID-19 in Brazil, highlighting the historic economic collapse as the worst in the nation's history. The analysis confirmed that unemployment rates surged to 12.8%, leaving a startling 12 million unemployed people. Scholars and international reports have examined the consequences of COVID-19 in a number of different global locations, such as the United States, Russia, Turkey, Mexico, and Georgia [20-26].

India too had to deal with serious pandemic-related effects. During several viral waves, the nation saw a sharp increase in instances, particularly during the second wave in early 2021, which put a burden on the nation's healthcare system. Controlling the virus's spread proved to be extremely difficult due to overcrowded hospitals, a lack of medical resources, including oxygen, and difficulty in managing a huge population. Balaji et al. [27] performed a descriptive study on the impact of COVID-19 in India, employing

491 samples chosen from a pool of 1300 COVID-19 patients. They applied Statistical methods to assess the statistical significance of various variables. Independent variables such as gender, age, travel history, nationality, and reason for COVID-19 were considered, while the current status of COVID-19 patients was the dependent variable. Among these independent variables, age showed a strong correlation with the current status of COVID-19 patients in India. Almost all the countries encountered difficulties with COVID-19, especially in the early phases of the outbreak. The nations conducted vaccination drives and lockdowns among other efforts to prevent the spread.

3 Socio-Economic Impacts of COVID-19

The societal ramifications of COVID-19 are many and varied, impacting many aspects of daily life and human behavior around the globe. COVID-19 has a significant influence on society. Government restrictions, lockdowns, and travel bans significantly altered travel patterns. Data on decreasing air travel, decreasing usage of public transit, and shifting commuting patterns all show these shifts. As offices and schools closed, online learning and remote employment gained popularity. There is evidence of a fast rise in the usage of remote work, challenges faced by educators, students' reliance on digital devices, and the impact of the digital divide on educational access. People often experience emotions of depression, anxiety and frustration during COVID-19, when unemployment rates peak at 14.7% in April 2020, as observed by Falk et al. [28]. The impact of the pandemic on mental health has been emphasized by research and surveys; data indicate that factors such as loneliness, unpredictability, and financial pressure are associated with enhanced levels of stress, anxiety, depression, and other mental health disorders during the COVID-19 pandemic in the general population [29-33]. Leiria and Martins [34] investigated how the COVID-19 pandemic affected the socio-economic status and emotional well-being of Portuguese citizens. An increase in anxiety and depressive symptoms was correlated with a decrease in general well-being, according to the study. Unemployment and depression led to the issue of domestic violence against women in Azerbaijan, which is presented by Gurbanova and Gibbs [35]. The information demonstrated how social habits have changed, such as the wearing of masks, stricter adherence to social distance guidelines, and adjustments to social interactions, get-togethers, and recreational pursuits. The spread of COVID-19 can be reduced by adopting behavioral strategies include mask wear, social separation, and avoiding crowded places. One strategy that has shown to be quite successful in stopping the virus's transmission is social separation [36]. One important way to slow down the spread of COVID-19 is to wear masks [37]. As demonstrated by a research of 12,710 samples, where appropriate face coverings decreased the risk by up to 20%. An effective strategy for lowering infection rates is to ensure a sufficient supply of masks and to highlight their importance. Large gatherings play a major role in the spread of the virus. The danger varies according to the size and nature of the gathering and the measures implemented to prevent the spread of COVID-19, as noted by Saidan et al. [38].

According to evaluations from around the world, older adults are the population most at risk from the pandemic. Hospitalization and death rates are greater in this cohort, which has been disproportionately affected by the coronavirus. Restrictions on social interaction and lockdown have also made older people physically deconditioned and made their mental health issues worse [39-40]. Socioeconomic differences disproportionately affect vulnerable populations, such as low-income individuals, members of minority communities, and key workers who are more susceptible to health dangers. During the COVID-19 pandemic, Pinheiro and Pasquie [41] drew attention to the disparities in the socioeconomic and environmental conditions that existed among various communities in France.

The 2020 World Bank reports [42] stated that a minimum contraction of 7 percent was expected in advanced economies, and a 2.5 percent contraction was predicted in developing nations. It is anticipated that these latter economies will be severely affected, with growth rates reaching their lowest levels in six

decades. The pandemic led to modifications in the delivery of healthcare. An analysis of the data shows that the usage of telemedicine solutions increased, normal healthcare was hard to come by, and the healthcare system was challenged. The data also demonstrates instances of community resilience, solidarity, and voluntarism as they came together to support those who were in danger and fortified their links in the face of adversity. The societal impacts of COVID-19 have been dynamic and constantly shifting, impacted by several factors like as the progression of the pandemic, vaccination rates, governmental policies, socioeconomic conditions, and so forth. Research, surveys, and observational data can help to better understand and address the societal challenges brought up by the pandemic.

4 Environmental Impacts of COVID-19

COVID-19 has brought about significant environmental changes worldwide. In many places, there was a noticeable reduction in air pollution during the lockdowns and reduced economic activity. Cleaner air and lower greenhouse gas emissions were the results of fewer automobiles on the road and fewer industrial operations [43-45]. Rume and Islam [43] reviewed the scientific literature in order to investigate the effects of the COVID-19 pandemic on the environment. Their research demonstrated that the pandemic has had significant positive impacts, including lowering greenhouse gas (GHG) emissions, reducing pressure on tourist destinations that may help with ecological restoration, and improving air quality in many cities across the world. However, Negative effects do exist, too, such as a rise in medical waste and inappropriate disposal of gloves, masks, and disinfectants, in addition to the environmental risk posed by untreated waste. In an investigation by Forster et al. [44], it has been proved that there has been a sharp drop in both GHG emissions and air pollution as a result of the worldwide reaction to the pandemic. They calculated, using data on national mobility, that worldwide nitrogen oxide (NO_x) emissions decreased up to 30% in April (2020), resulting in a short-term cooling effect since the year's start.

Reports of wildlife entering cities, rivers being cleaner from less industrial waste, and animals having less disturbance in their native habitats have been made when human activities have been curtailed. As a result of the pandemic, there was a persistent drive in certain areas for renewable energy sources, as they are resilient to worldwide shocks and provide sustainable energy. The pandemic changed how energy was used. Due to a decline in travel and industrial activity, fossil fuel use declined, but as more individuals worked from home, the need for residential energy ascended. As a result of the pandemic, more medical waste, including gloves, masks, and other personal protective equipment (PPE), was produced. Furthermore, safety concerns caused a spike in the usage of single-use plastic, which might reverse the trend of decreasing plastic waste. Diffenbaugh et al. [45] analyzed two multidisciplinary cascades of the Earth System's response to COVID-19: poverty, globalization, food, and biodiversity; and energy, emissions, climate, and air quality. They concluded that short-term consequences mostly emanate from reduced human activity, while longer-lasting consequences are predicted from the economic deflation and impact on green investment, global poverty, and human behavior. In a separate investigation, Bherwani et al. [46] evaluated the Susceptible-Exposed-Infectious-Removed (SEIR) model's influence on the transmission of COVID-19 in India in order to comprehend the role of socio-behavioral factors, including social distancing. Using statistical techniques like Pearson's correlation and Response Surface Methodology (RSM), they also focused at how temperature and relative humidity (RH) affected the amount of COVID-19 cases reported each day. The investigation proved that there was a noteworthy association observed between the daily distribution of COVID-19 cases and the temperature in Indian cities.

The pendemic brought to light the significance of public health and the relationship between environmental factors and human health. Reevaluating environmental policies and programs, several governments and organizations put more of an emphasis on sustainable practices and crisis resilience. Travel limitations and resource scarcity hampered fieldwork and conservation activities, which had an influence on environmental research and conservation schemes throughout the world.

The COVID-19 pandemic has a broad spectrum of effects on the environment, both beneficial and detrimental [43]. The significance of resilient practices and sustainable practices in the face of global issues has been underscored by several changes.

5 Conclusions

The statistical analysis of COVID-19's effects on the globe is a powerful illustration of the complex interactions between many elements that have altered the world environment in the aftermath of this extraordinary epidemic. With painstaking research throughout fields, including sociology, public health, environmental science, and more, a thorough grasp of the pandemic's effects is revealed. This statistical analysis provided important new light on the complex effects of COVID-19. It has clarified the startling impact on public health by measuring cases, death figures, and the impact of vaccine doses.

Moreover, this research has illuminated the social fabric by revealing modifications in patterns of movement, adjustments in employment and learning, mental health issues, shifts in social conduct, and the inequalities exacerbated by the epidemic. It has also brought attention to the effects on the environment, illustrating variations in pollution levels, changes in carbon emissions, and adjustments in ecological dynamics as a result of modified human activities. This review has crossed academic barriers by using statistical approaches as a unifying framework, supporting a multidisciplinary perspective that is crucial for understanding the intricate and interwoven nature of the pandemic's impact. Collaboration between specialists in many domains has been made easier by it, which has made it possible to synthesize ideas and suggestions that are important for stakeholders, policymakers, and international communities.

In general, this statistical analysis provides a thorough documentation of the significant effects of COVID-19 and functions as a road map for well-informed policy development, decision-making, and readiness for the next global health emergencies. The statement highlights the significance of adopting a comprehensive and cooperative strategy to tackle complex issues, stressing the fortitude, flexibility, and inventiveness demonstrated in overcoming extraordinary hardships. It will be crucial for us to build a more resilient and sustainable post-pandemic environment going ahead by utilizing the lessons revealed from this statistical review.

6 Challenges

Numerous significant challenges have emerged during the COVID-19 pendemic, especially in the healthcare and education sectors. Social distancing measures have affected education since the beginning of the pendemic, affecting medical students in particular. For students interested in medical careers, the shift to online learning has generated substantial obstacles, especially in the fields of nursing and midwifery, where possibilities for longer-term internships within NHS services have arisen [47]. These modifications have both positive and negative aspects. In a transdisciplinary study, Muradli and Gibbs [48] evaluated the impacts of COVID-19 on student nurses, emphasizing the drawbacks of online learning for educational quality and the challenges faced by specialty nurses in hospital service. Black, Asian and Minority Ethnic (BAME) students studying nursing and midwifery have also been disproportionately impacted by the epidemic; more than 70% of them showed anxiety about their work during the crisis [49]. This group, which makes up a sizable percentage of Middlesex University's nursing students, experiences both anticipated and unforeseen challenges, demonstrating the need for assistance and adaptability during these difficult times. COVID-19 posed several persistent issues. Although there has been success in vaccination campaigns and a decrease in infection rates in certain areas, there are still unresolved issues. The virus keeps evolving, and some of its variants could be more contagious or able to overcome protection gained from earlier infections

or immunizations. This creates problems for vaccination effectiveness, necessitating ongoing observation and possible vaccine modifications. Increased rates of anxiety, depression, stress, and other mental health issues are evidence of the pandemic's negative effects on mental health throughout the world. It's still difficult to get mental health services and assistance. Global disparities occur in the delivery of vaccinations, with certain areas having restricted access to immunizations because of administrative, financial, or political obstacles. It is still difficult to guarantee that all people have fair access to immunizations. The pandemic's aftermath is causing job losses, company closures, and economic upheaval in several economies. It is a major difficulty to achieve sustainable recovery while addressing ongoing virus-related concerns.

The continuous handling of COVID-19 patients continues to put a strain on healthcare systems and raise the risk of stress among medical personnel. Taking care of COVID-19 patients on top of routine medical needs is still challenging. After healing from COVID-19, some people have long-term symptoms called protracted COVID or post-acute sequelae of SARS-CoV-2 infection (PASC). Healthcare systems continue to face difficulties in comprehending and treating these chronic health issues. It is difficult to strike a balance between the threat of new varieties and possible increases in situations when economies, schools, and communities reopen. Resuming activities while developing strategies to stop future waves is essential. Vaccine reluctance endures in many communities and cultures despite concerted attempts to promote immunization. Immunization hesitancy is exacerbated by misinformation, worries about vaccination safety, and mistrust of healthcare institutions. Due to geopolitical conflicts and differing national agendas, achieving global collaboration in pandemic management—including sharing resources, information, and coordinated efforts—remains an ongoing challenge.

To tackle these issues, sustained attention to detail, empirical studies, public health interventions, and cooperation across global governments, health care systems, communities, and individuals are all essential. Navigating these continuous COVID-19 problems requires regular updates and strategy adaptations depending on the virus's evolving nature.

7 A Transdisciplinary Approach

The present study is transdisciplinary as it incorporates perspectives and approaches from several fields to offer a thorough grasp of the COVID-19 pandemic's consequences. Basel et al. [50] conducted research on the COVID-19 crisis and complexity in the United States. They introduced a transdisciplinary approach that involves collaborative efforts to apprehend the complexities of COVID-19 complications using collective intelligence. The research presented Interpretive Structural Modeling (ISM), a methodology addressing the design of complex systems. Humanities and Social Sciences Analysis from the fields of sociology, psychology, and economics is applied to examine how the epidemic has affected behavioral changes and social developments. According to Lawrence [51], the COVID-19 pandemic should be recognized as a complicated and emergent social problem that necessitates the implementation of specialized expertise and abilities. This approach described the COVID-19 pandemic as an open system, recognizing that both internal and external factors and their dynamic interrelationships impact the pandemic's onset and effects on public health. It examines how people, groups, and organizations have dealt with the crisis, stressing the difficulties and changes that have occurred across a range of areas in society. Hooper et al. [52] investigated the potential role of data science as a unifying field for building such interdisciplinary teams, acknowledging the need for training programs and transdisciplinary approaches in tackling emerging infectious illnesses. They proposed that data science could provide a common platform for experts from different disciplines and different nations. They also assessed the viability of using the massive volumes of digital data produced by the worldwide COVID-19 pandemic as a useful platform for an online, collaborative, real-world case study.

Hernández-Aguilar and Pacheco [53] conducted a study investigating the relationship between various factors (such as human development index, population, area, competitiveness index, and number of airports) and the number of confirmed COVID-19 cases and deaths in 14 countries in Asia and 24 countries

in the Americas. For their analysis, they performed Principal Component Analysis (PCA). The calculations showed that in both regions, there is strong positive correlation (coefficient of correlation > 0.96) between the number of confirmed cases and deaths were population size and the number of airports. The research findings also indicated a noteworthy surge in verified cases and fatalities, along with the expansion of the virus into additional nations. This highlighted how local or individual decisions have an impact on the world at large and underscored the necessity of making systemic decisions in order to secure humanity's existence and future.

Transdisciplinary research incorporates concepts, techniques, and information from several disciplines to provide a thorough understanding of challenging issues. A comprehensive approach of the pandemic's effects is adopted in the framework of this study by the perspectives from a range of disciplines. In addition to qualitative methods used to comprehend societal behavior and the responses of healthcare systems, descriptive statistics are used to analyze the data. To show the complexity of the problem, the review of the literature is examined to comprehend the connections between the many pandemic-affected areas, including public health, the economy, the environment, culture and society.

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