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REVIEW ON THE WORLDWIDE PANDEMIC SITUATION OF COVID-19 ACTIVITIES FROM THE BEGINNING TO CURRENT SCENARIO-2024

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ABSTRACT

Research on COVID-19 has significantly grown since the pandemic began. A survey of the literature on COVID-19 research in public administration is given in this work. 710 articles are analyzed in this analysis using a Structural Topic Model (STM). The 27 most important subjects are identified and mapped by the analysis. We discover that most themes' popularity holds up very well over time. Additionally, we discover that the journal and the author's place of origin have a greater influence on the themes' salience than the study team's internationality. Possible directions for further study and theory development are investigated in light of this thorough investigation.

The journal and the author's place of origin have a greater influence on the themes' salience than the research team's internationality. Potential research and theoretical development areas are examined in light of this thorough examination.

everyone is aware, the world has been fighting an epidemic like COVID-19 for the past three years, and many countries are still impacted. Due to this infection, everyone had to deal with lockdown, economic, financial, food, and employment issues, among other issues. You may say that COVID-19 is a global infectious disease because it is spreading around the world. Corona viruses can cause respiratory infections in humans, ranging from the common cold to more serious conditions like Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS).

KEYWORDS: *vaccination, pandemic infection, transmission, and COVID-19.*

2) OVERVIEW

The Corona Virus is an illness that can spread around the world. The virologists J.D. Almeida, C.H. Cunningham, and D.M. Berry are the first to identify these viruses. Another name for this virus is COVID-19.This broad family of viruses can infect both people and animals. Corona viruses can cause respiratory infections in humans, ranging from the common cold to more serious conditions like Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS).

Corona virus disease is caused by the most recently identified corona virus. COVID-19. Before the December 2019 eruption in Wuhan, China, a new virus and disease had not been found. All worlds are affected by the plague it caused.

According to reports, the local fish market in Wuhan, China, was connected to -2 (SARS-CoV-2) is a novel coronavirus strain that was discovered by a deep sequencing investigation of the lower respiratory tract secretions of the afflicted people. The strain responsible for the the first outbreak of pneumonia cases of unknown etiology. The severe acute respiratory syndrome-coronavirus 2003 SARS outbreak was distinct from this one. The coronavirus illness 2019 (COVID-19) spread quickly from Wuhan to the rest of China around the Chinese New Year.(2)

In March 2020, the World Health Organization (WHO) labeled it a pandemic due to its rapid global spread.
The coronavirus disease of 2019 was initially identified as SARS-CoV-2 in the Chinese city of Wuhan. Updates on the current state of this virus and its health measures must be developed by the World Health Organization.

History

Under an electron microscope, coronaviruses look as crowns due to spike-like projections on their surface. They are enclosed positive sense RNA viruses that range in diameter from 60 to 140 nm.
In humans, four corona viruses—HKU1, NL63, 229E, and OC43—have been found to cause minor respiratory illnesses.
In the last 20 years, there have been two instances where animal-beta corona virus crossover to humans has caused serious illness.

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One such incident occurred in Guangdong province, China, in 2002–2003, when a novel coronavirus belonging to the β genus, which originated in bats, spread to people through palmcivet cats (3).
The past:The enclosed positive sense RNA viruses known as coronaviruses range in size from

ORIGIN AND SPREAD

For an unspecified reason, persons in Wuhan with severe respiratory illness visited nearby hospitals in December 2019. To find the cause, breathing samples from patients and the control system—which was created after the SARS outbreak spread—were submitted to reference labs. China notified the WHO of the epidemic on December 31, 2019, and seafood stores in Huanan were shut down in January 2020. The virus was identified on January 7th as a coronavirus with roughly 70% resemblance to SARSCoV and 95% symmetry with coronary bat virus. Samples collected from the animals and items at the Huanan seafood market also tested positive, suggesting that seafood is the source of this virus (4).
Symptoms:

Although COVID-19 symptoms might differ greatly from person to person, typical symptoms include:
1. Chills or fever
2. Cough
3. Breathing difficulties or shortness of breath
4. Exhaustion
5. Aches in the muscles or body
6. Headache
7. A sudden loss of smell or flavour
8. A sore throat
9. Runny nose or congestion
10. Vomiting or feeling queasy

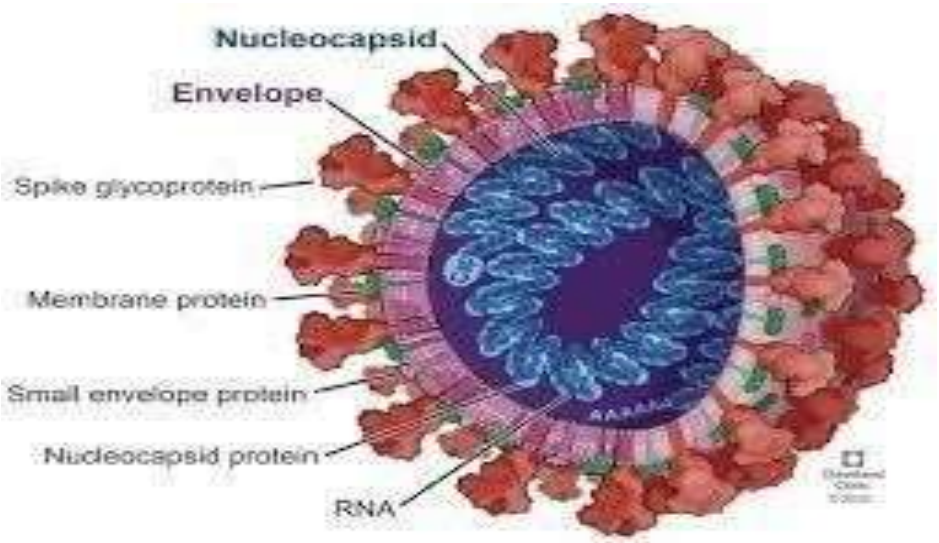


FIG.NO.1 Structure of Corona Virus

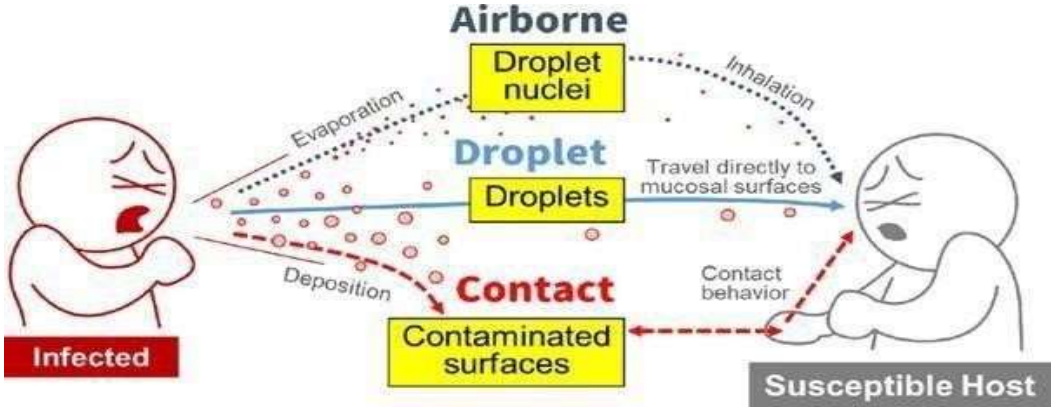


Fig.No.2 Transmission of Covid 19.

Viruses can be released into the environment via unsanitary carriers. The corona virus spike protein's edge and its corresponding cell receptor play a crucial role in determining the free virus's species diversity, tissue tropism, and infectivity.Depending on the kind of coronavirus, they can spread from one host to another through fecal-oral or aerosol routes.
The respiratory tract's epithelial cells are infected by these

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human viruses, but the digestive tract's epithelial cells are usually infected by animal corona viruses.

1. Principal Mode of Transmission: When an infected individual coughs, sneezes, talks, or breathes, respiratory droplets are the main way that COVID-19 is transferred.
2. Aerosol Transmission: In confined areas with inadequate ventilation, smaller particles, known as aerosols, have the ability to travel farther and remain in the air for longer.
3. Surface Contamination: The virus can endure for variable lengths of time on a variety of surfaces. Infection can result from contacting contaminated surfaces and then touching the face.
4. Asymptomatic Spread: Attempts to stop the virus's spread are made more difficult by the fact that infected people who do not exhibit symptoms can still infect others.
5. Close Contact: The risk of transmission is increased when one is within 6 feet (2 meters) of an infected individual, particularly in crowded or poorly ventilated areas.
6. High-Risk Settings: Higher transmission rates are linked to locations such as medical facilities ,assisted living facilities, and crowded indoor spaces.
7. Preventive Measures: The danger of transmission can be considerably decreased by wearing masks, increasing ventilation, practicing physical distance, and washing your hands frequently.
8. variations: The rate at which the virus spreads among populations may be impacted by new virus variations' varying transmissibilities
9. Impact of Vaccination: Vaccination can lower general transmission rates in populations and lessen the chance of serious illness.
10. Community Spread: Because COVID-19 can spread quickly among communities, outbreaks must be controlled through public health interventions.

CERTAIN COVID-19 TYPES

1. Original Strain: The initial epidemic was caused by the first strain discovered in Wuhan, China, at the end of 2019.
2. Variants of Concern (VOCs): Variants that exhibit heightened virulence, transmissibility, or diminished efficacy of therapies and vaccines. Important VOCs consist of:

• Alpha (B.1.1.7): More contagious than the original strain, initially discovered in the UK.
• Beta (B.1.351): Initially discovered in South Africa, this mutation may impact the effectiveness of vaccines.
• Gamma (P.1): Linked to greater transmissibility, initially discovered in Brazil.
• Delta (B.1.617.2): Initially discovered in India, this virus is much more contagious and associated with more serious illnesses.
• Omicron (B.1.1.529): Originally discovered in South Africa, this virus has several mutations that cause it to spread quickly, impair the efficiency of vaccinations, but normally cause a milder form of the illness.
• Subvariants: Variants that develop from preexisting variants, frequently include alterations that impact immune escape or transmissibility. Omicron, for instance, has many subvariants (e.g., BA.1, BA.2, XBB).
• Variants: Variants that might appear in particular regions and have an effect on the dynamics of local transmission.
• Mutations: Changes in the virus's genetic makeup give rise to variations. Certain mutations might improve the virus's ability to spread or evade immunity.
• Monitoring: To track the appearance and dissemination of novel variations, ongoing genomic surveillance is essential.
Variants: Variants that could surface to guide public health measures.
• Effect on Vaccines: Although certain variations may partially circumvent vaccine protection, vaccination is still a vital strategy for lowering hospitalization and serious illness.

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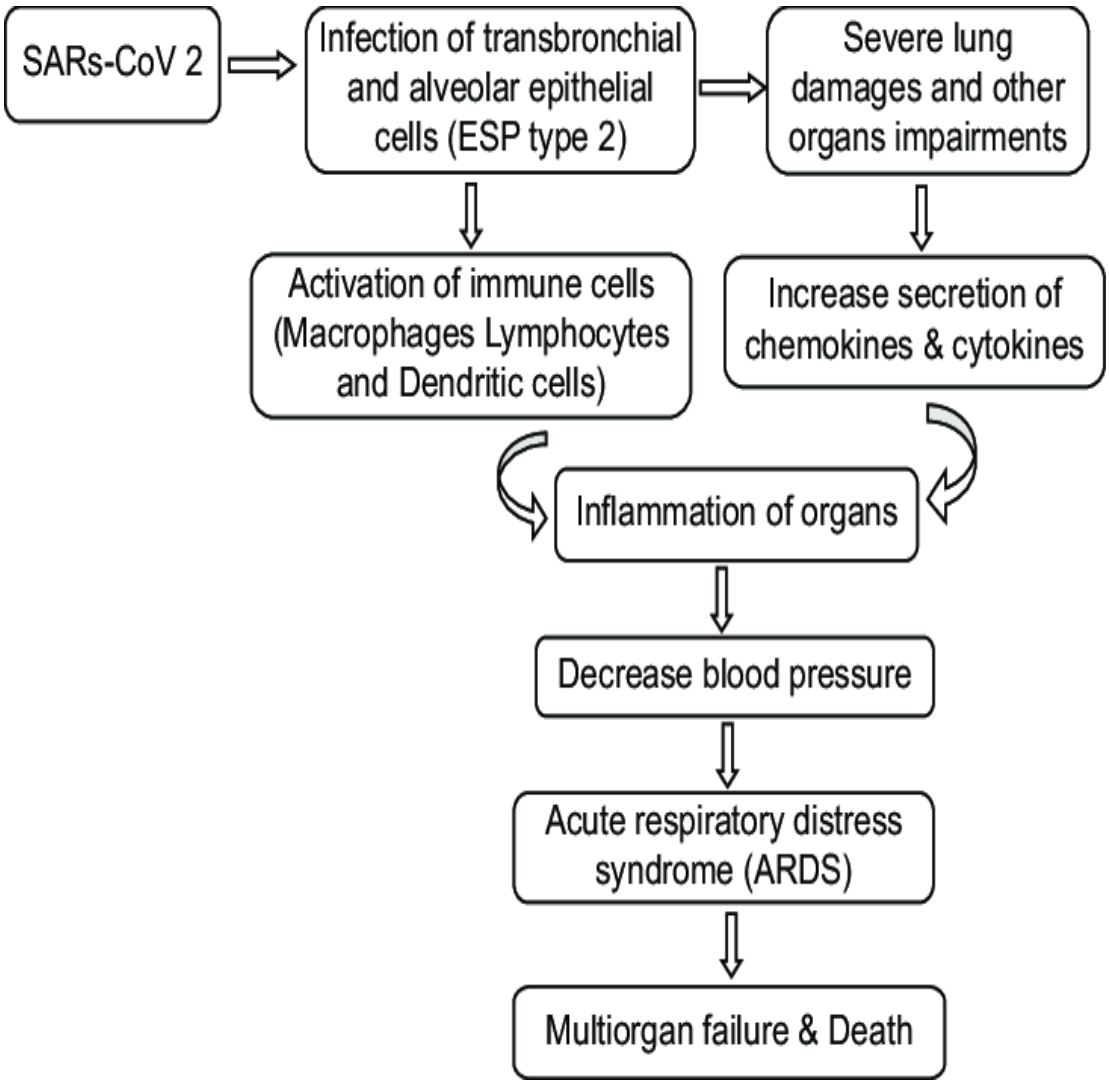


Fig.No.3 Showing the Pathophysiology of Covid -19.

The Study of Epidemiology

Early efforts focus on treating the ill, counting severe cases, and keeping people informed about the clinical progress. Experience with the Middle East respiratory disease (MERS), pandemic influenza, and recent outbreaks has prepared us to identify the need for increased public fitness measures to describe the novel virus's epidemiology and likely force in order to prevent epidemic evolution. The spread of an infection, the number of unclean people, and the range of clinical severity all affect how severe an epidemic is. During a viral pneumonia outbreak in December 2019, Wuhan, China, reported the first documented case of COVID-19. Since then, a local outbreak has quickly spread to a global pandemic that is infecting at least 124 countries.

We look at a critical need to increase public fitness actions to explain the epidemiology of the novel virus and identify its likely force, as the Middle East respiratory syndrome (MERS), pandemic influenza, and new breakout have ready to be recognized with the goal of evolving into an epidemic. The number of impure persons, along with significant sickness and mortality, determines the impact of an epidemic. The full extent of the influence on public health has not yet been determined at the time of writing. Over 438,749 persons (55,243 in the United States) have contracted the virus globally, and 19,675 of them have passed away.

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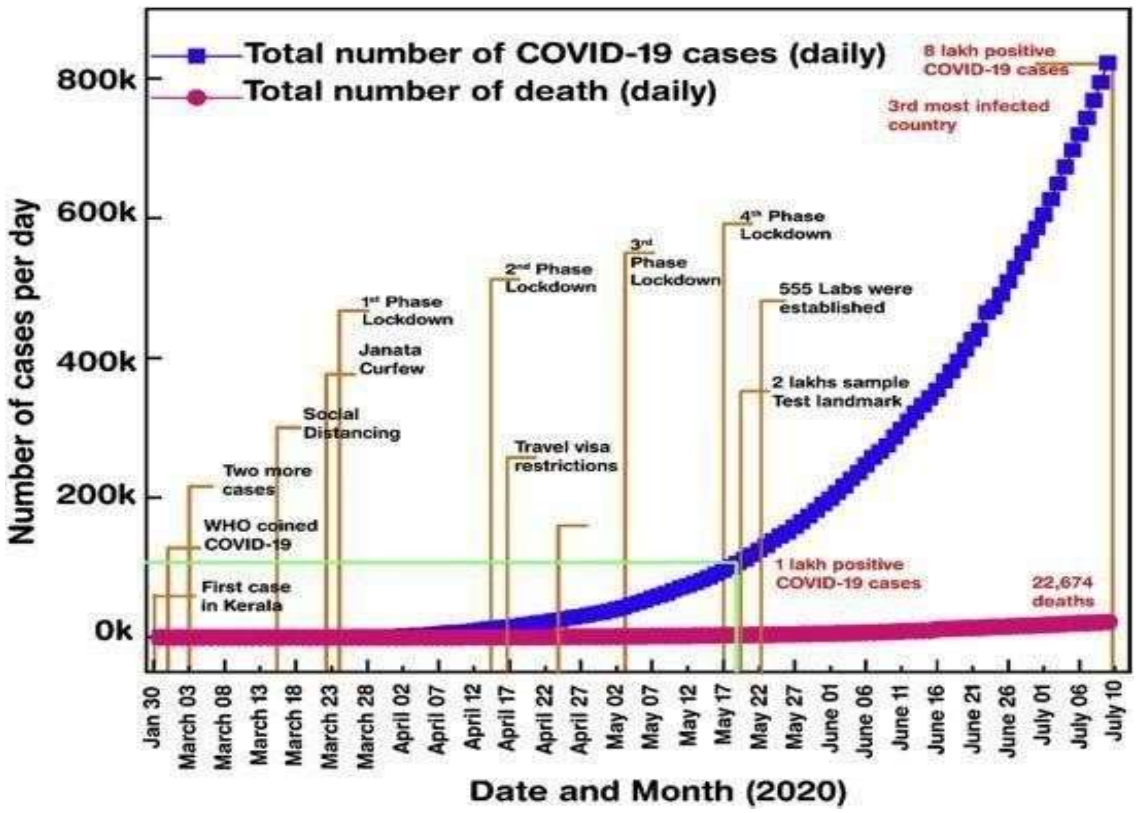


Fig.No.4 Death Ratio In 2020 Pendamic Condition

3) DAIGNOSIS

Since COVID-19 has been deemed a pandemic, any patient exhibiting any of the previously mentioned symptoms, a history of travel to one of the impacted nations, or a history of contact with sick individuals should raise the possibility of SARS-CoV-2 infection. The WHO advises obtaining samples by bronchoalveolar lavage, endotracheal aspirate, or expectorated sputum. Viral RNA is detected using the real-time polymerase chain reaction (RT-PCR) technique. It is occasionally necessary to repeat the test for confirmation if the results are negative but there is a high suspicion of COVID-19.

The diagnosis of COVID-19, or corona virus

A. A New COVID-19 Diagnostic Test The WHO states that the creation of protein and nucleic acid assays as well as point-of-care detection are the top priorities for COVID-19 diagnostics research. [39] Combining these tests into multiplex panels is a longer-term priority.

B. RNA detection of viruses The most crucial test has involved using PCR to directly detect SARS-CoV-2 virus RNA. In January, WHO created and disseminated the first quantitative reverse transcript PCR (RT-qPCR) tests for SARS-CoV-2 to labs worldwide. However, the density and expense of these widely used tests have made the development of a different PCR-based testing approach on a more targeted scale necessary. Furthermore, as these tests are still relatively new, it is important to remember that the genuine clinical sensitivity is indefinite; a negative test does not negate the danger of infection.

Tests for serology Immunoglobulins, which are typically found in blood, are being detected by an increasing number of assays. These tests use antibody–antigen recognition to determine if the host has been exposed to the virus. These tests can help cover a picture of the viral spread throughout populations and deal with social limits from side to side. They also supply diagnostic facts and spectacular information about a viral limelight when more people get the sickness and then recover from it.

VACCINATION AND VACCINES

The Can Sino anti-coronavirus vaccine has been approved by China and is being tested for military usage in small quantities. Additionally, on June 24, 2020, more than two other virus vaccinations that must be inactivated in an emergency will be utilized in high-risk jobs. Following the production of the Sputnik V vaccine by Russia, which was also utilized to quell the crisis, his scientists used the vaccine for a month before distributing small doses to the public during phase three testing on August 11, 2020.

The World Health Organization determined on April 8, 2022, that the following COVID-19 vaccinations have satisfied the mandatory safety and value requirements.

1. The Oxford/AstraZeneca vaccine
2. Johnson and Johnson

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3. Contemporary
4. BionTech/Pfizer
5. Sinopharm
6. The Sinovac
7COVAXIN
8. COVOVX
9. Nuvaxovid
10. CanSino and associates

CORONA VIRUS PREVENTION (COVID-19)
• To keep two miters apart and refrain from interacting with anyone who is ill or exhibiting symptoms.
• If at all possible, stay at home and maintain your distance.
• Steer clear of large events such as conferences, seminars, parties, and large gatherings.
• When in public, cover your face with a handkerchief, especially if you're in an area where population growth is ongoing.
•. Avoid touching your lips, nose, or eyes.
• Every day, sterilize and clean high-touch surfaces.
• Mostly wash your hands at least 20 seconds from alcohol-based hand sanitizer, and you can also use any other shop.
• To avoid winning public transportation if you're sick.
• Covid-19 vaccines also take pregnant women. It's totally safe.
• No side effects of covid19 vaccine are used for all people

4) AIM

REVIEW ON WORLD WIDE PANDEMIC SITUATION OF COVID-19 ACTIVITIES FROM BEGINNING 2019 TO CURRENT SCENARIO 2024.

OBJECTIVE

- Public Health Protection: To study minimize the spread of the virus through effectivevaccination campaigns, public health guidelines, and testing protocols.
- Healthcare System Capacity: To understand ensure healthcare systems can manage the number of cases, including adequate staffing, resources, and facilities
- .Economic Stability: To understand mitigate the economic impact of the pandemic by supporting businesses, providing financial assistance, and encouraging safe reopeningpractices.
- Community Education: To inform the public about COVID-19 prevention, symptoms, and vaccination benefits to encourage responsible behaviors
- Research and Development: To study advance research on COVID-19, including treatments, vaccines, and understanding of the virus itself
- Equity in Healthcare: To ensure equitable access to vaccines and healthcare
- Protection of Public Health: To investigate ways to reduce the virus's transmission through efficient vaccination programs, public health recommendations, and testing procedures.
- Capacity of Healthcare Systems: To make sure that healthcare systems can handle the volume of cases, including enough resources, especially for disadvantaged and vulnerable populations.
- Mental Health Support: To provide easily available support services and community initiatives to address the mental health issues brought on by the epidemic.
- International Cooperation: To promote global collaboration in vaccine distribution, research, and response tactics to control and avoid new outbreaks.

5) ASPECT OF THE FUTURE

Future COVID-19 Aspects: Important Things to Think About
• Vaccine Development and Distribution: Ongoing studies on the accessibility, safety, and effectiveness of vaccines.
• Management and Treatment: creation of potent remedies, such as monoclonal antibodies and antivirals.
• Public health infrastructure: enhancing surveillance, response, and global health systems
• Global Governance and Cooperation: Improved data exchange, policy coordination, and international cooperation.
• Economic and Social Recovery: Resolving the effects of the epidemic on the economy, society, and mental health.

6) OUTCOME

Nobody is able to forecast the future despite all of the experiments and cures. According to some studies, the virus's ability to recombine and reassort makes it more susceptible to mutation, which causes it to fluctuate from mild to severe depending on the environment. Lockdowns, sanitization, and social isolation don't seem to be enough to keep the infection at bay. The recovery rate is also higher than that of any previous virus outbreak worldwide, in spite of all of these factors. This has a significant impact on the USA, India, Russia, and Italy. Due to limited testing, the precise number of COVID-19 deaths is yet unknown.

7) FINAL RESULTS

• Public Health Response: Due to high immunization rates in many nations, hospitalization rates and case severity have dropped. Maintaining the focus on immunization, including booster shots, has been essential to controlling outbreaks. Societal Adaptation: By implementing strategies like remote employment, digital health solutions, and enhanced public health infrastructures, societies have adjusted to life with the virus. Health and hygiene awareness has permeated every aspect of daily life.

• Persistent Difficulties: Although the pandemic has improved in many ways, difficulties still exist. The virus is still evolving, and constant monitoring and preparedness to handle any new outbreaks are necessary.

• Impact on Mental Health: The epidemic has brought attention to the significance of mental health, which has raised awareness of the need for resources and assistance

• Global Inequities: The epidemic brought attention to health inequities around the world, which sparked conversations about fair access to healthcare and vaccines—two persistent issues that require attention.

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