

CATASTROPHICALLY SPREADING PANDEMIC VERSUS RESILIENTLY GROWING OPPORTUNITIES

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ABSTRACT

At present, the world is reeling from the coronavirus (COVID-19) crisis and the vulnerable segments of our society are the most at risk. The COVID-19 pandemic is a huge challenge but has also emerged as an opportunity. Our vast pool of scientists, engineers, and data professionals must collaborate on novel solutions for the situation. The biggest weapon to fight against this pandemic is extensive testing for identification of infected people and quarantine them and at the same time to enforce lockdown so that unaffected people should remain safe while staying their premises. While the virus is taking millions of lives all across the globe and hits the worst of economy in last few decades, on the other hand, it has emerged as blessings for restructuring the industries, creating opportunities for new comers in businesses, making pollution free environment, offering new investment opportunity at lower costs and hoping big benefits in future as soon as the current situation recovers.

Keywords : Covid-19; pandemic; coronavirus; quarantine; artificial intelligence

1. INTRODUCTION

The definition of pandemic is “occurring over a wide geographic area and affecting an exceptionally high proportion of the population” [1]. Last pandemic was 2009's H1N1 flu. On December 31, 2019, the WHO reported a cluster of pneumonia cases in Wuhan, Hubei province, China (WHO). In January 2020, a previously unknown new virus was found [2][3] and called the 2019 novel coronavirus. Case samples and genetic analysis suggested that this was the origin of the epidemic. In February 2020, WHO called this new coronavirus as Coronavirus Disease 2019 (COVID-19) [4]. SARS-CoV is the virus causing COVID-19 [5]. According to World Health Organization (WHO), viral infections continue to arise, seriously threaten public health. Several viral outbreaks have been observed in the previous 20 years, including SARS-CoV in 2002-2003 and H1N1 influenza in 2009. MERS-CoV was discovered in Saudi Arabia in 2012. An epidemic of unexplained low respiratory infections was first reported to the WHO China Country Office on December 31, 2019. Published literature dates symptomatic people to December 2019. These initial instances were classed as "pneumonia of undetermined aetiology" since the cause was unknown. Chinese and local CDCs conducted a comprehensive epidemic investigation. This sickness was eventually linked to a coronavirus (CoV) [6]. This new virus looks infectious and spread swiftly internationally. In a meeting on January 30, 2020, the WHO labelled the epidemic a Public Health Emergency of International Concern (PHEIC) since it has spread to 18 countries and four reported human-to-human transmission. The first non-Chinese instance of the illness was reported in the U.S. on February 26, 2020. These infections might spread globally, posing a severe public health concern. On February 28, 2020, the WHO elevated COVID-19's danger rating to “extremely high”. As the situation is changing swiftly, the new CoV epidemic's repercussions are likely to surface soon. In March 2020, when the number of COVID-19 cases outside China climbed tenfold and the number of countries implicated quadrupled, WHO labelled COVID-19 a “pandemic”. 2019-nCoV was the virus's initial name. The International Committee on Taxonomy of Viruses (ICTV) called it SARS-CoV-2 because it is similar to the SARS-CoVs [6].

2. PANDEMIC

The pandemic occurred due to COVID-19 has affected the international society in all aspects.

2.1 Effect on Social Living

The COVID-19 outbreak affects all segments of society, especially the poor, the elderly, the disabled, the young, and the indigenous. Early research shows that the health and economic costs of the virus are borne disproportionately by poor individuals, i.e. homeless persons are particularly exposed to the virus since they may be unable to securely shelter in situ. People without running water, refugees, migrants, or displaced individuals would also suffer disproportionately from the epidemic and its aftermath, due to limited travel, fewer economic possibilities, heightened xenophobia, etc. COVID-19's perception as an illness of older people exacerbates unfavorable perceptions about older people as weak, insignificant, and a drain on society. Such age-based prejudice may show in service delivery since older people may be seen as less valuable [7]. Persons with disabilities encounter difficulty getting health care owing to availability, accessibility, pricing, stigma, and prejudice. The dangers of infection from COVID-19 for people with disabilities are amplified by additional challenges, which necessitate particular action: interruption of services and support, pre-existing health conditions, and exclusion from health information and mainstream health provision. Physical disabilities, environmental restrictions, or interrupted services make cleaning and handwashing difficult. Others may not be able to exercise social distance or isolate themselves because they need regular help with self-care duties. After the shutdown of schools and colleges in many countries, more than a billion youth are no attending school anymore. The interruption in education and learning might have medium and long-term effects on education quality, but teachers, school administrators, local and national governments should be commended for their efforts to cope with the unusual conditions. Migrants and homeless youngsters are vulnerable. They can be easily missed if governments don't pay special attention, as they often don't meet their basic health, education, work, and well-being standards.

2.2 Effect on Work Place

COVID-19's early workplace consequences include a move to remote/online labor. Organizations must care for their employees while shifting to new work patterns. Companies must respond quickly to present disruptions and improve operations for future value chain threats. Companies must offer products and services swiftly, safely, and securely, especially to people at risk of infection or on the frontlines of the medical response, such as life sciences companies developing COVID-19 testing and therapies [8]. Companies must satisfy this extraordinary demand while protecting the health and welfare of their employees and the communities they serve. COVID-19 has strained medicinal supply chains. Increased demand for medical equipment has caused shortages, putting medical staff at danger [9].

3. PREVENTION

Introduction Preventive methods reduce case spread. Preventive efforts should focus on patient isolation and infection control, including diagnostic and therapeutic treatment for affected patients. In addition to droplet, contact, and airborne precautions, sputum induction should be avoided.

WHO and other organizations provided broad recommendations:

- Avoid acute respiratory infections.
- Wash your hands often, especially after touching contaminated individuals or surfaces.
- People with acute airway infection symptoms should keep their distance, conceal coughs and sneezes, and wash their hands.
- Strengthen the application of strict hygiene measures in emergency medicine departments to prevent and control infections.
- The most important strategy for the public is to frequently wash their hands, use portable hand sanitizer, and avoid touching their face and mouth after interacting with a potentially contaminated environment.
- 'Lockdown' to be enforced in order to limit/stop public gatherings.

During the epidemic, many individuals used self-checks and telemedicine to receive medical advice. Multilingual chatbots helped with language hurdles, information access, and doctor communication. 3D printing is used to make new resuscitation valves and medical face shields. Security and sanitation robots and drones reduce personnel risk. Airports and public locations use face recognition and thermal cameras to identify sick persons. UV-lit sterilization robots sanitize hospitals and polluted regions. AI-powered technology has been helpful in providing health care when emergency lines are overloaded [9].

4. OPPORTUNITIES

4.1 International Relations

After the COVID-19 pandemic, India and the rest of the world will have the opportunity to build an economy that is more resilient, diversified and more attractive to global manufacturers and services as the majority of the businesses worldwide have faced disruptions and economic fallout. India sees opportunity to build a more resilient and diverse economy as businesses will want to de-risk in having too much of a supply chain concentrated in one area and try to diversify and disperse. India continues to be the pharmacy to the world and more attractive for further investments. This will also allow India to become more and more integrated into a global supply chain. Specifically, US and India may look at a post-pandemic environment and how they might collaborate to address significant challenges, came into the picture through this pandemic period [10]. In the Middle East and North Africa, COVID-19 is spreading over a reorganized political and social landscape after the Arab revolutions. This epidemic will present the region with large and persistent problems, causing geological shifts [11]. In recent years, China and Middle Eastern countries have developed deeper political connections, increased trade and military agreements, and established Chinese educational institutions in the area (e.g., universities and Confucius institutes). Several Arab regimes (including Saudi Arabia) courted Beijing's favor during the epidemic by offering support and aid.

4.2 Artificial Intelligence in Health Care

After the COVID-19 pandemic, India and the rest of the world will have the opportunity to build an economy that is more resilient, diversified and more attractive to global manufacturers and services as the majority of the businesses worldwide have artificial intelligence (AI) has been widely employed in COVID-19, including diagnosis, public health, clinical decision making, social control, medicines, vaccine research, surveillance, combination with big data, operation of other key clinical services, and care of patients with COVID-19 [12].



Fig-1: Role of AI in health care during Covid-19

Figure 1 depicts role of AI in health care sector during covid-19 pandemic. By facilitating early detection, a number of medical imaging modalities including computed tomography (CT), ultrasonography (US), and X-ray, have significantly contributed to containing the COVID-19 outbreak.

4.3 Telecommunication Industry

Telecommunications is a people-intensive sector with office, truck, and storefront personnel. Remote employment might reduce productivity. Telecommunications is a people-intensive sector with office, truck, and storefront personnel. Remote employment might reduce productivity. Remote employment threatens consumer and telecom security and infrastructure. Some telecommunications tasks are difficult or impossible to duplicate remotely. Hourly employees' sick time rules may be inadequate. Front-line staff, such as retail customer reps or field technicians, may worry about COVID-19 exposure and transmission.

4.4 Online Industry

Governments must give accurate, helpful, and up-to-date information, especially in crisis. During COVID-19, countries began releasing information through national websites, mobile applications, and social media platforms. The COVID-19 situation has increased demand for government digital services. So, developers designed new apps and services to combat COVID-19. These innovative services include online instruction, remote engagement between educators and students, internships/employment possibilities, providing food and other essentials, and bringing medical treatments to people most in need by optimizing the supply chain via digital services. Public officials, software developers, civil society, and social entrepreneurs can search for new solutions to the lack of

medicines and protective medical equipment, the shortage of health personnel (i.e., in hospitals or food banks), the issue of food hoarding, or the deteriorating mental health of people due to social isolation, tracking of highly affected zones (hot spots), and instructing local people to follow additional measures such as all Indians should download Arogyasetu.

Globally, the rise in applications for unemployment and other social benefits increased the use of online services like digital ID and digital signature. Some reaction units or awareness efforts have been developed to counter COVID-19 falsehoods online.

4.5 Energy Sector

India should explore renewable energy more vigorously after the COVID-19 outbreak. India should prioritize health and economic recovery following COVID-19, but a clean energy transition should be part of coping tactics and support measures. The period after COVID-19 will give the Indian government a chance to reset its energy policies and increase focus on clean energy, in the post-pandemic recovery phase—a crash in world oil prices can free up revenue to help tackle the crisis by temporarily eliminating petroleum product subsidies, higher oil prices and growing use of subsidized liquefied petroleum gas (LPG) drove the growth of oil and gas subsidies in India, enabling higher tax rates, increasing demand to support energy producers as profits fall, demand falters, and risk perceptions rise, and increasing demand for social protection and effective and efficient public services [13].

4.6 Reduced Pollution

Industrial activity have slowed or stopped due to the coronavirus lockdown. Lack of tourists has deserted the streets, factories are closed or operating much below capacity, and road and air traffic have plummeted. This is poor news for most individuals, especially those in impacted sectors, but excellent for the world. Covid-19 reduces air, water, and land pollution. In Venice this has allegedly led to dolphins' quick comeback [14].

The closure and lockout of significant sectors of our economy is short-term beneficial for nature. Keep portions of this in place after the crisis to create long-term improvements. Along with earlier possibilities, the current crisis allows us to restructure our lives to have less influence on the world.

5. CONCLUSION

As a result of the global COVID-19 epidemic, our attitudes and actions are altering. How will the virus's imminent danger influence our thinking and behavior, and how will it affect how we design, convey, develop, and run experiences that people need and want? If not adequately addressed, the COVID-19 pandemic's social crises may promote inequality, marginalization, discrimination, and worldwide unemployment. The COVID-19 epidemic is prompting governments and communities to turn to digital technology to address socio-economic ramifications and rethink current policies and instruments. COVID-19 might assist enhance public trust in government crisis response procedures and protect disadvantaged communities. The problem has highlighted the need for emerging technologies like AI and robots to improve public services. Effective public-private partnerships may help governments restart the economy and reconstruct society. Developing countries require international help to mitigate the situation. Regional, national, and local project-based cooperation with private firms, international organizations, and other stakeholders are needed. COVID-19 has proved what one catastrophe may do to health, economy, and livelihood. It's showed us the value of public health investments. Governments should invest in clean and renewable energy to revitalize the economy, not fossil fuels, which harm public health and the planet.

6. REFERENCES

- [1]. Merriam Webster Dictionary. Pandemic. Available from: <https://www.merriam-webster.com/dictionary/pandemic> (Accessed 20 March 2020)
- [2]. <https://www.who.int/csr/don/12-january-2020-novel-coronavirus-china/en/> (Accessed 15 April 2020)
- [3]. https://en.wikipedia.org/wiki/Timeline_of_the_2019%E2%80%9320_coronavirus_pandemic_from_November_2019_to_January_2020 (Accessed 18 April 2020)
- [4]. [https://www.physio-pedia.com/Coronavirus_Disease_\(COVID-19\)#cite_ref-5](https://www.physio-pedia.com/Coronavirus_Disease_(COVID-19)#cite_ref-5) (Accessed 20 March 2020)
- [5]. <https://www.gov.uk/government/publications/wuhan-novel-coronavirus-background-information/wuhan-novel-coronavirus-epidemiology-virology-and-clinical-features> (Accessed 14 March 2020)

- [6]. M. Cascella, M. Rajnik, A. Cuomo, S. C. Dulebohn, R. Di Napoli, *Features, Evaluation and Treatment Coronavirus (COVID-19)*, (Jan. 2020). Treasure Island (FL): StatPearls. Retrieved from <https://www.ncbi.nlm.nih.gov/books/NBK554776/> (Accessed 20 April 2020)
- [7]. E. Harris (Apr. 2020). *Everyone Included: Social Impact of COVID-19*. Retrieved from <https://www.un.org/development/desa/dspd/everyone-included-covid-19.html> (Accessed 05 April 2020)
- [8]. *COVID-19: Managing the human and business impact of coronavirus*. (Apr. 2020), Retrieved from <https://www.accenture.com/in-en/about/company/coronavirus-business-economic-impact> (Accessed 24 April 2020)
- [9]. <https://www.un.org/development/desa/dpad/publication/un-des-a-policy-brief-61-COVID-19-embracing-digital-government-during-the-pandemic-and-beyond/> (Accessed 19 April 2020)
- [10]. https://economictimes.indiatimes.com/news/economy/finance/india-has-opportunity-to-build-a-more-resilient-and-diverse-economy-after-covid-19-pandemic-usibc/articleshow/75139553.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst
- [11]. <https://en.qantara.de/content/COVID-19-pandemic-a-golden-opportunity-for-middle-east-autocrats> (Accessed 15 April 2020)
- [12]. J. Chen, K.C. See, Artificial intelligence for COVID-19: rapid review, *J Med Internet Res.* (2020) 22:e21476. doi: 10.2196/21476
- [13]. <https://qz.com/india/1841174/coronavirus-is-indias-chance-to-pursue-clean-energy-aggressively/> (Accessed 15 April 2020)
- [14]. J. Kraaijenbrink, *The Bright Side Of Covid-19: Seven Opportunities Of The Current Pandemi*, (Mar. 2020), Retrieved from www.forbes.com/sites/jeroenkraaijenbrink/2020/03/23/the-bright-side-of-corona-seven-opportunities-of-the-current-pandemic/#b7f4d38785c0

