

Insight into Origin of COVID-19 and Focus on New Opportunities in the New Normal Life

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Abstract

Corona virus disease 19 (COVID19) fetched unprecedented times for all of us. Being pandemic, COVID19 affected 223 countries and territories across the world. In various possible ways we are trying to accommodate with the situation for the best safety & care. During these tough times, as a part of our on-going efforts, we are trying to understand the corona virus, its detection techniques, patho-physiology and fast transmission. In addition, various possible preventive measures and treatment strategies came out. At the same time certain new insights appears due to this COVID19 pandemic, which are new normal due to COVID19. This review will give a glance about the origin and new insights of this pandemic.

Key words: COVID19; SARS CoV2; New Normal of COVID19.

Introduction

The outbreak of Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2), a highly infective pathogen responsible for the infectious Coronavirus Disease 2019 (COVID-19), has sought global attention about the invisible threat from an old viral enemy¹, SARS-CoV-2 is the third major outbreak of a zoonotic coronavirus [apart from the earlier outbreaks of Middle East Respiratory Syndrome Coronavirus (MERS-CoV) and Severe Acute Respiratory Syndrome Coronavirus (SARS-

CoV)] over the last 20 years, that has infected human populations.^{2,3} COVID-19 has taken the entire globe by a deadly viral storm, that has affected 223 countries and infecting over 144, 358, 956 people that claimed more than 3,066,113 lives across the world.⁴ The deadly disease has crippled the world, thereby forcing countries into lockdown, imposing curfews, massive airport screenings, quarantines, and social distancing that has become the norm and way of life across the globe.⁵ The pandemic has evoked fears, apprehensions and concerns amongst citizens, with authorities imposing international and domestic travel restrictions, and putting halt to commerce and trade across nations. The existence of such a deadly virus was first brought to the notice of the world when China informed the World Health Organization (WHO) on December 31, 2019, of a cluster of pneumonia like cases of an unknown source in Wuhan City in Hubei province, the epicentre of the disease.^{5,6} The WHO later on January 9, 2020 issued a statement saying Chinese researchers have made “preliminary determination” of the virus as a novel coronavirus.⁵ On January 30, 2020, an expert panel from WHO declared SARS-CoV-2 outbreak as a Public Health

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Emergency of International Concern (PHEIC), and on March 11, 2020, the outbreak was declared as a pandemic by WHO.^{2,6}

Is SARS-CoV-2 Man Made

Since the outbreak of COVID-19, speculations has been arising as to whether the deadly SARS-CoV-2 is a man-made virus or has natural origins? While the global communities have reacted strongly against China for their lack of transparency since the outbreak happened in Wuhan, conspiracy theories about the origin of SARS-CoV-2 have been brewing across various sections in the social media. One of the most prominent theories published in the fact-checking website 'Snopes' alleged that the new coronavirus was created as a bio-weapon in a government lab which however leaked onto the people of that region.⁷ However, this theory was disputed by several researchers as being illogical and baseless as it lacked concrete evidence. French virologist and medicine Nobel laureate Luc Montagnier, while interviewing on a French news channel, claimed that SARS-CoV-2 is a man-made virus which was the result of an endeavour to design a vaccine for combating the deadly AIDS virus, in a laboratory located in the city of Wuhan[8]. In his interview, Montagnier further alleged that there are presence of elements of HIV-1 retrovirus and malaria germ-the parasite *Plasmodium falciparum*, which can be easily detected in the genome of coronavirus, that authenticates its unnatural origin.⁸ Professor Chumakov, from the Engelhardt Institute of Molecular Biology in Moscow, however claimed that scientists at the Wuhan Laboratory had been actively involved for more than 10 years, with the development of various coronavirus forms or variants in order to study their pathogenicity, and not with the aim to create any pathogenic variants.⁹

As the COVID-19 crisis continue to rise across nations, debates about China's involvement is also being speculated. It is very clear that some Chinese officials made a major mistake between the late December of 2019 and early January of 2020, by concealing the coronavirus outbreak in Wuhan, and silencing doctors, healthcare workers who tried to report the same.¹⁰ A report even claimed that, a doctor named Li Wenliang and few other doctors who tried to warn about a SARS-like virus outbreak, were silenced by Chinese authorities, and later Dr. Li died from COVID-19 related complications.¹¹ In fact, internal documents received by 'The Epoch Times' confirm that Beijing covered up the outbreak of the virus, and central authorities were secretly providing directives to regional governments on how to cope with the outbreak.¹² Michael Gove,

Senior British government minister too believed that some of the reporting from China about the scale, the nature, and the infectiousness of the virus, lacked clarity.¹³ As COVID-19 cases began to surpass across the globe during mid-March, with many European countries going into lockdown in response to the threat, Wuhan shut its last temporary Coronavirus hospital as no new cases of the disease were reported in the city.¹⁴ However, in the following days, several indicators pointed that Government of China and Chinese state media may have deliberately understated the number of COVID-19-related deaths in its soil.¹⁴ Several pieces of evidence from investigative journalists and citizens of China, have shed light on the lack of transparency of the Chinese authorities even in the number of funeral urns in Wuhan, which seems to exceed the number of official deaths standing at 3,500, indicating that the number of deaths in Wuhan could be as higher than 40,000.¹⁴ A recent report published in 'Guardian' claimed that China is even trying to inspect onto the publications of research articles relating to the origins of the novel coronavirus, and this clearly indicates China's effort in attempting to control all narrations and information relating to the pandemic.¹⁵ In fact, research articles related to the novel coronavirus which were published earlier in the websites of two leading Universities of China, were removed, suggesting China's new policy that require academic research papers, particularly those pinpointing the origin of the coronavirus, to seek government approval before publication.¹⁵ Despite deliberate attempt of the Chinese government to restrict information related to the coronavirus outbreak, suspicion is only growing as COVID-19 related death continue to rise across the globe.

SARS-CoV-2 has Natural Origin

Amongst all these reports of conspiracy and speculations, various scientists from different nations have strongly refuted such claims of the virus being 'man-made' by providing scientific evidence about SARS-CoV-2's natural origin. Immunologist Nigel McMillan from the Menzies Health Institute Queensland also mentioned that evidence suggests that the SARS-CoV-2 is naturally derived and not a result of intentional manipulation.¹⁶ Furthermore, WHO spokeswoman Fadela Chaib, while briefing the media in Geneva, confirmed that the virus is of animal origin and not a product of laboratory manipulation.¹⁷ However, it is important to note that viruses can mutate naturally anywhere; in animal hosts, in humans, or even in laboratory cell cultures, and it's difficult to determine where and

how the new coronavirus acquired its mutations, and most researchers believed that the process involved an animal host.^{16,18} With the genomic analyses of SARS-CoV-2, and its subsequent publications in scientific journals, scientists across the globe have confirmed that this coronavirus originated in wildlife. Researchers led by Shan-Lu Liu at the Ohio State University further confirmed that there is no evidence of genetic engineering as the virus's genome was already sequenced, and in case of any alteration in the genome sequence, signs of inserted gene sequences would have been clearly visible.¹⁹

In a new analysis of SARS-CoV-2 by a group of researchers, the genome of this novel coronavirus was compared with seven other coronaviruses known to infect humans, viz., SARS, MERS and SARS-CoV-2 (causing severe diseases) and, HKU1, NL63, OC43 and 229E (showing milder symptoms).^{20,21} These group researchers confirmed in their published article in the Journal of Nature Medicine, that SARS-CoV-2 is not a product of the laboratory or a deliberately manipulated virus.^{20,21} The genomic data of the novel coronavirus show that its spike protein contains some unique adaptations that gives it a special ability to bind to a specific protein called angiotensin converting enzyme (ACE2) on the human cells. It should be noted that all coronaviruses infect other cells through its spike proteins.

The researchers to their surprise, found that the spike protein bound much better only because of natural selection on ACE2 which enabled the virus to take advantage of a previously unidentified alternate binding site, thereby providing further strong evidence that that new virus was not the product of a laboratory manipulation.²² The researchers believed that any amount of bioengineering aiming to design a coronavirus that jeopardized human health, would probably never choose this particular conformation for a spike protein.²² Further, analysis of the genomic data of SARS-CoV-2 by researchers also revealed that the backbone of SARS-CoV-2 closely resembles that of a bat coronavirus discovered only after the COVID-19 pandemic began; however, the region that binds ACE2 resembles a novel virus in pangolins, thereby providing additional evidence that SARS-CoV-2 certainly originated in nature.

If the new coronavirus was a laboratory construct, then scientists would have used the backbones of coronaviruses already known to cause severe health hazards in humans.²² The researchers in their study, believes that the carrier of the virus is a bat,

which transmitted the virus to another intermediate animal (possibly a pangolin), and that later got transmitted to humans in a pathogenic form.²¹ In an online statement published in The Lancet, 27 public health scientists from around the world supported the efforts of the scientists, public health professionals, and medical professionals of China in combatting the pandemic.²³ The statement was further supported by a letter from the presidents of the US National Academies of Science, Engineering, and Medicine and by the scientific communities they represent. They stressed upon that conspiracy theories create fear, panic, confusions, and prejudice that threaten global collaboration and efforts in the fight against the virus.²³

These public health scientists in their statement also voiced support for the call of the Director-General of WHO "to promote scientific evidence and unity over misinformation and conjecture."²³ Although evidence so far point to the fact SARS-CoV-2 is naturally derived, refuting it of being human-made, still discussions around this subject have become increasingly important as US government intelligence officials are reportedly still investigating the potential source of the pandemic. In fact, Director-General of WHO, Tedros Adhanom Ghebreyesus speaking at the World Health Assembly through a virtual conference assured that he will initiate an independent evaluation at the earliest appropriate moment to review experience gained and lessons learned, to improve national and global pandemic preparedness and response.²⁴ In his speech Tedros also called upon nations to resolve and do everything it takes to ensure that the coronavirus pandemic is never repeated in future.

A New Normal during COVID19

In an outbreak like COVID19, the disease spreads more quickly and infects large number of people than predicted. In these hard times, nations are evolving and both citizens and government should actively be a part of progress emphasizing on AATMANIRBHARTA (self-reliance) therefore, opening up gates towards new horizons.²⁴ This pandemic has given wheels and momentum to cope up with the crisis situation. We will look into the positive sides of the lockdown and the COVID-19 from two sides. The first side will be on a personal prospect and the second will be on nation i.e. INDIA's prospect. On a personal account, this started with a stage of fear for the disease and lockdown. This gets to the next step as the stage of learning where people decreased exposure to fake news and grew emotionally strong. This stage evolved to the stage of growth. The people are

now more genuine in their relationships. They are practicing more hygienic practices and are more aware of cleanliness. They are looking into the old relationships and connecting back to their old friends, distant relatives, and far away connections. The finances have shifted to blue-chips and these are considered as a safe bet to invest. Remote working is now mainstream. The affordable real estate and luxurious housing is a bigger emphasis. The longtime of everyone staying apart and having no bigger time to stay together is now converted to a nice time for the families to stay together and have a healthy time.

The population that spends on street food is now cooking food at home and is learning this new skill. This is a time to go back on to the long left hobbies and pending works. This has given a break and pause in the mid of the hustle-bustle of life. People are grateful for understanding the value of life and being alive. There is an increase in online leanings, courses, and classes. This has given us the opportunity to learn new things. Everyone got time for themselves, their self- introspection, further planning and more clear understanding of themselves.

The lockdown has established a bond between all the citizens of the country. The real heroes as Corona Worriers are now the frontline fighters with all their will. Their work made everyone else stay safe and sound. The government on one side ensured the public health and on another hand the infected patient's wellbeing. The human race has started to live life with limited resources and stopped being materialistic. For better health, yoga and exercise are in big consideration. Humans of all ages are going towards technological advancement acceptance and are learning them. This has given patience. It has given positivity to the views. There is huge respect in society for healthcare professionals, workers, police service providers, volunteers, and all service providers.

This time has given lifelong moments and memories to everyone in one or another way. The pandemic made us realized that there exists a social responsibility of each individual towards every other citizen. We are now emotionally strong. We all are very vigilant about our life. This pandemic has given an insight into uncertainties of life where we earned the capabilities as an individual, as a family, as a citizen. The long wait of coming out of the situation has made the entire human race believe that we are unstoppable in the sense that life will go on with new acceptances and evolving working styles as per the situations and conditions.

The second prospect is the growth and new additions in the different sectors and ways of the country with the new normal challenges. It has opened up mind channels as well gave an insight towards future policy making and strategy building. The India is looking ahead towards a bigger picture. The nation is heading to a better version of its own self with a jump start seeing the current pandemic situation. Where there is a downfall in the country, a new rise is there on the same way. This has pushed the growth suddenly at a five years forward platform. We are now heading towards the base strengthening to the technical advancements.

Environment

The environment is the biggest positive thing the human kind has come across because of shutting down of the industries and no road traffic. The sky is clearer than previous days. The emission of different gases that were polluting has significantly decreased with the decreased to no factory and industry pollutions. The holes in the ozone layer are healing and the gases level in the environment is decreasing.

Real Estate

The real estate has always been a choice for investments and consideration. In the light of COVID, we will look in terms of Commercial offices and Residential sector. In commercial offices, the demand for a big flexible space is now the new consideration. As per social distancing, new layouts are to be made. For business continuity, decentralization will be taken in account. So, here the offices as well as housings are going to be the new workplace for the employees. An advancement in the technology demands more amenities in both of them. The human race is towards a luxuries house and a comfortable workplace which will increase in the demands of shares in real estate. On looking into residential sector, the township is going to see a rise in demand. The digital solutions including developers performed well in the lockdown. There is a rise in the need for larger and flexible homes with the ability of converting home to workplace. The reverse migration may create bigger demand in the housing at the Tier II and III cities.²⁵ The pandemic has given a vision to look for better and advanced housing investments. The real estate is now growing and is having a more affordable investing. Digitalisation has improved the market working. It has made the documentation and dealing comparatively more faithful and adaptability at stretch.

Information and Communication Sector

The telecommunication industries are a part within information and communication sector. It has telecommunication companies and internet service providers into it. During the lockdown, this particular industry has played even more crucial roles. The work from home demanded for a more promising network. So, the network stability is ensured. The new concepts of online consultation and telemedicine, gave the sector new platform and more subscribers to come in as new customers. This gave a connection to the vital services. The outreaching has increased for the government and they came up with different tracking systems for COVID-19 patients that are based on internet connectivity and availability. This helped in creating awareness in terms of the Do's and Don'ts of the pandemic.

There are different companies that have come up with more customer oriented services. This has made it more reliable and functional for coming days. The present situation has led to more of an online world, virtual interactions and distance learning. This made the growth jump to a five plus year directly in terms of technology usage and learning.

Manufacturing

The manufacturing sector is looking to heights at the local markets. The manufacturing is looking into "Vocal for Local", where the India is preferring the whole set up to be made in the Nation's market. The government is also supporting the micro, Small and medium businesses to come up with new ideas and start new businesses. The most advantageous part of establishing manufacturing units are the increased employment and exposure to new technologies. The India is now more ready for accommodating other nations for investing and giving it a chance for their settling up. This situation has made us look more into the strengths, possibilities and positivity of the sector. It has increased the focus towards "Made in India" products. This is promoting the local businesses and local market. We are now ready to provide a market for other nations and a better approach to personal growth. The India is establishing its own platform for the release and intake. The in nation manufacturing will directly add up to the finances. The exports will increase with a promising increase in the value of rupee. This newer vision is to scale up in house workforce, getting validated to international standards, involve greater scale development, and settling up an innovation network with other nations. The

focus is now on availability of raw materials and its assembly. The innovation and creativity may take up an outstanding modernisation appraisal.

Health Sector & Pharmaceutical Industry

The Healthcare sector was the most active sector during whole COVID-19 pandemic. The warriors of the time gave this sector recognition and made everyone understand its importance. Today we all are aware of how much the healthcare is important. In these hard times, the real heroes of all times have come up with lifesaving services. The hospitals are actively taking up the new normal to its routine practices. India is focusing on increasing the investment towards the healthcare sector. The hospitals are coming up with the online consultation platforms, dedicated isolation wards, special care to the COVID patients and to the other patients on separate dedicated wards and areas. There are new trainings in the hospitals to the staff and all workers. The hospitals have come up with more hygienic practices ensuring at patient's end as well. The healthcare as a whole is now looking towards research as a main part of them. The newer policies and plans are made for the pandemics. The healthcare sector is preparing to a better ready for the future pandemics.

On the other hand, the pharmaceuticals are looking towards the drug and vaccine. The above is an example of Serum Company. The companies are extending the boundaries; they are stretching towards vaccine of COVID. The industry is now ready to take up the newer technologies, setting up collaborations and work. India is putting an eye to the alternative medicines which have come up to be more reliable in prevention measures taken. The drug manufacturing remained in the pipeline with increased demand to specific drugs. The companies like Bharat Biotech, Zydus Cadila, Serum Institute of India, etc. are all working hard and ensuring the public faith to remain.²⁶

Governance

The government is using tracking system for monitoring the location of people who are in isolation.

This is a launch in favour of the public which carries data from all the citizens. It acts as a bodyguard that alarms for awareness when some COVID positive persons is present in certain circumference. Also, it allows a self-assessment. It updates with the cases and all the data. The government has launched a website "MyGov" that updates on all the government policies

and schemes. The website is also available as an application. The government has given a big emphasis on the hospitals in these times. There are new diagnostic labs settled in these times. There are beds with ventilators in the hospitals. The PM care funds have come up as the biggest help to the nation. The government has come up for an appeal for AATMANIRBHAR BHARAT. It has come up as a campaign.

Conclusion

Being pandemic, COVID19 affects 210 countries and territories across the world. In various possible ways we are trying to accommodate with the situation for the best safety & care. During these tough times, as a part of our on-going efforts, we would like to better understand the corona virus, its detection techniques, pathophysiology and fast transmission. The need of the hour is cooperative and coordinated efforts of national leaders from across the globe, along with researchers, pharmaceutical companies and healthcare systems worldwide, which would help not only in predicting the future of this pandemic, but also in controlling the present outbreak.

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