

Lifestyle Changed by COVID-19 Pandemic

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The COVID-19 pandemic is a serious challenge for societies around the globe as entire populations have fallen victim to the infectious spread and have taken up social distancing. In many countries, people have had to self-isolate and to be confined to their homes for several weeks to months to prevent the spread of the virus. Social distancing measures have had both negative and positive impacts on various aspects of economies, lifestyles, education, transportation, food supply, health, social life, and mental wellbeing.

Keywords: COVID-19 ; economy ; lifestyle ; health ; education ; environment

1. Introduction

COVID-19 is a disease that causes the novel acute respiratory syndrome coronavirus 2 (SARS-CoV-2), which has spread throughout most countries and has caused multiple health and social problems. Disturbances in various areas of life have been consequences of the restrictions imposed by governments and health authorities, as mentioned in [Table 1](#) ^[1]. For instance, health, education, community relationships, and availability of food and jobs have been impacted by the restrictions applied to limit the transmission of the disease ^[2].

Table 1. Some negative and positive consequences of the COVID-19 pandemic.

Life Sectors	Negatives	Positives	References
Economy	Massive losses of money, layoffs, more tension in all sectors	Learning lessons and making plans for similar future occurrences	[3][4]
Lifestyle	Tensions; domestic violence; isolation; loneliness, especially with elder people; loss of physical activity; lack of supplies among poor people; and increased internet demands	Staying home, more sleep, less stress, more time with families, and less traffic	[5][6][7][8][9][10][11][12][13][14]
	Working from home is a double-edged sword with faithful comfort but stress in daily home routines.		[15]
Transportation	Mainly economic and financial loss	Encouraging the use of green transportation and educating about its consequences	[16][17][18][19]
		This was reflected in energy, as the quantities of fuel consumption decreased due to less flying and less use of transportation, etc. but a slower transition to green deal was also presented as economies put money into the pandemic.	[20]
Internet and social media	Misleading information	Medical use of social media, the appointment of documented pages for international health organizations, rapid transmission of medical instructions, some economies saved, and e-learning	[21][22][23][24]
Education	Higher drop-out rates of students and medical educational institutions, with the focus only on COVID-19 and fear of the future among students, and closed schools	The transition to e-learning and paying attention to infrastructure plans for pandemics in the future, especially in developing countries	[25][26][27]
Research activities	Research routines stopped at most universities and research centers	Research focus on vaccine production, high financial support for points related to COVID-19, and open access journals made free	[28][29]
		Rapid publication shared the downsides of scientific inefficiency and the advantages of quick access to solutions.	[30]

Life Sectors	Negatives	Positives	References
Health	COVID-19 as a new disease, psychological effects, fear of disease and infection, anxiety, obesity, eye problems due to long durations sitting in front of screens, many deaths among health workers, and extreme pressure on the global health sector	Races against time, the use of new technologies, revolution in intertwining biotechnology and medical sciences, quick vaccine production, and digitalization of health systems	[31][32][33][34]
Environmental aspects	Wildlife as a source of energy and wildlife tourism	Nature recovery, reduction in heat emissions and toxic gases (NO ₂ , SO ₂ , CO, CO ₂ , etc.), recovery of the ozone layer, and water cleanliness (Italy and India)	[35][36][37][38] [39]

2. Global Economic Recession

2.1. During the Peak Period of the COVID-19 Outbreak

Many studies proved that economic growth is greatly related to population health [40]. COVID-19 may cause either the death of workers or their incapacitation, and both cases affect the economy by interrupting production. Various countries previously imported numerous products from China. Since the virus outbreak, however, China's production has considerably slowed down. Hence, the economy dropped by 0.4%, accompanied by a decrease in the global economy by 0.1% [41]. As a reaction to the growing fear, China's central bank pumped out about USD 22 billion into the system in February 2020 to stabilize the market [42]. It will be difficult for governments to minimize the negative impact of the COVID-19 pandemic on the economy since the highest priority was to reduce death rates. However, parallel measures have to be taken to counter the inevitable economic downturn [43].

2.2. After the Shock Period and Updates

After the first sudden wave, the disease spread around the world and began to change between countries. Per the latest updates of 23 April 2021, the United States harbors the largest number of injuries, followed by India; then Brazil; then France, Russia, Turkey; and the United Kingdom [44].

Although it is impossible to precisely determine the economic damage caused by the COVID-19 outbreak, all economists agree that it has had a severe negative effect on the global economy. Since the virus became a global pandemic, it is estimated that most economic growth will decrease by at least 2.4% of respective GDPs globally.

2.3. Transportation

The COVID-19 pandemic became a global situation within weeks. During that period, worldwide communities looked to transportation systems, public and private, as one of the main reasons for the global pandemic. As a result, transportation systems struggled to preserve their economic value due to both the preventive measures taken by governments as well as the fear of people regarding travel due to the risk of transmission/infection [45][46]. An inter-county ban on China was the first precaution, and hence, the challenge became a reality; this was followed by a complete suspension of planes leaving from China.

Losses to the commercial aviation sector reached nearly USD 252 billion in 2020 [17][19]. The new situation and the exacerbation of losses led to an urgent necessity to open transportation again, but at the forefront were social distancing, wearing masks, personal hygiene, and frequent hand washing, as some of the prerequisites to maintain health safety.

3. Lifestyle during the COVID-19 Pandemic

3.1. Staying at Home

The spread of COVID-19 around the world led to increased calls from many parties, including international organizations, government institutions, and individuals, to stay at home [47]. Stay-at-home orders can reduce activities associated with community spread of the virus, including population movement and close person-to-person contact outside the household. Close contact between family members, relatives, or friends is one cause of COVID-19 spread [3][4]. Stay-at-home orders might assist in limiting potential exposure to COVID-19 and garnered significant public support. On the contrary, the social and psychological damages were tangible and created a feeling of isolation and loneliness [6][48].

3.2. Social Media

Under the COVID-19 pandemic, social media has been engaged directly as the fastest method for spreading information. Whether it is used as entertainment or as a source of reliable or fabricated information, online communication occurs primarily through Facebook (79% of internet users), followed by Instagram (32%), and then Twitter (24%) [49][50]. The number of global social media users reached 3.6 billion in 2020 and is expected to reach 4.41 billion users in 2025 [51]. Therefore, social media could serve as a suitable method for communicating the best practices for preventing COVID-19 spread.

Facebook and Twitter directed people to confirmed medical care websites. Google Scholar highlighted the top leading journals and recommended articles surrounding COVID-19, which helped to control online traffic by directing users to trusted sources (Figure 1) [23][52][53].

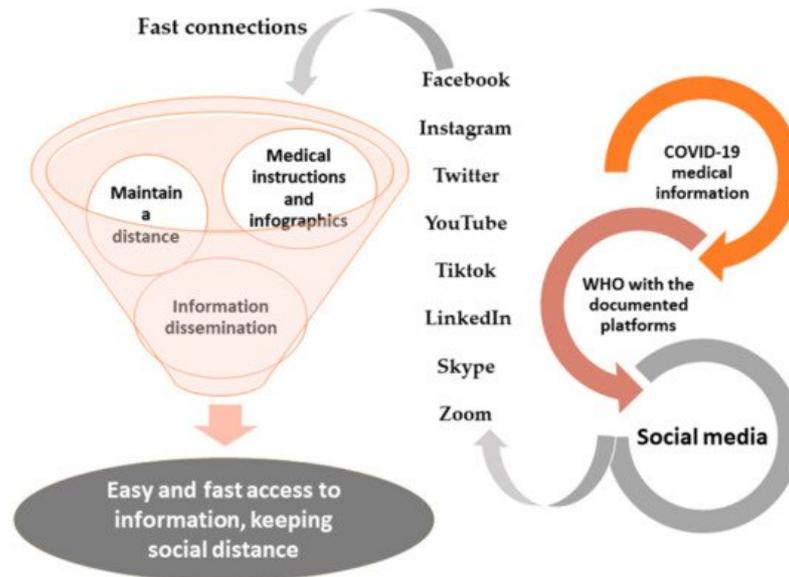


Figure 1. Social media participation and the continuation of its role during the pandemic, especially using documented pages of international and local organizations as well as press institutions on the Facebook and Twitter platforms to update information about COVID-19 around the clock for users.

A bad reputation for misinformation is dominant around social media. This becomes very clear when the general population addresses questions such as whether COVID-19 was created in a laboratory, what the symptoms and nature of the virus are, as well as any precautions that should be taken against it.

4. Education and Research Activities during the COVID-19 Pandemic

4.1. Education

Despite it not being new, online courses were the only way to replace face-to-face contact. Some educational facilities already had the infrastructure needed for applying for online courses at a large scale. This can be taken as a positive point in developing countries to begin paying attention to providing these means, to consider it among essential needs, as well as to face the current crisis and to explore new strategies in the future to keep up with technological improvements (Figure 2) [25].

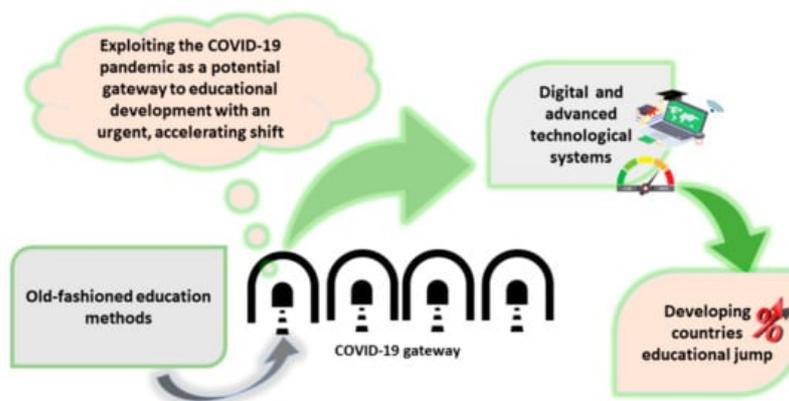


Figure 2. Exploitation of the COVID-19 Pandemic is one of the gateways in forcing the technological transfer and development in education as a basic need in developing countries.

4.2. Research Activities

Just as life activities were influenced by COVID-19 circumstances, so was research activity. During the pandemic, most research and research-related activities have been carried out remotely/virtually. Worldwide, universities, and research centers have abruptly stopped their routines. Scientists were worried about the progress of their research projects, and in response, many universities and research institutes supported their staff working at home [29]. In parallel to this, there was an urgent need to continue research activities to find a vaccine or optimal treatment for COVID-19-related disorders, so keeping research participants and staff active was necessary.

5. Health Sector during the COVID-19 Pandemic

5.1. Food Supply, Dietary Patterns, Nutrition, and Health

In developing countries, food insecurity is mainly attributed to the rising food inflation (inability to afford adequate food supply) [54]. The State of Food Security and Nutrition in the World, in their last published edition, estimated that the COVID-19 pandemic may have added 83–132 million more people to the undernourished population of 2020 [55].

In developed countries, however, it is more pertinent to trade restrictions and currency deflation [54]. Export-restrictive measures implemented by some countries have put the trade flow of staple foods such as wheat and rice at risk [56].

Food supply distribution influences the individual's food-related behavior. This is relevant because nutrition is vital for health and well-being, especially if the immune system is involved. Moreover, restricted access to fresh food may also have detrimental effects on both mental and physical health [13].

5.2. Health and Psychological Effects on Students during the School Closures

Psychological effects of the pandemic and quarantine measures are evident among all groups of people, including fear of disease and infection, as well as its consequences. Among students, fear of the future, especially concerning educational attainment and qualification for jobs, has been abundant.

5.3. Vaccine Production

Combatting the COVID-19 pandemic is a race against time, testing the world's ability to act quickly as the virus mutates. Subsequently, a variety of efforts have been made to create vaccines against COVID-19. Vaccine production takes place at various stages, including preclinical and clinical stages, which is a three-phase process. According to the WHO, the vaccine must be highly efficient, healthy, and appropriate for all ages and backgrounds [57]. Researchers are investigating various formulations of medications for treating COVID-19 patients, but all of the formulas are still under examination.

After nearly one year, Pfizer in cooperation with BioNTech announced (on 9 November 2020) its readiness to offer a vaccine against COVID-19 with some realistic and trusted documentation (Figure 3) [32]. The results were considered extremely rapid in relation to common vaccine production processes. Such processes normally require many years of high-quality research and procedures in follow-up, bearing in mind the viral mRNA and the potential for mutation [58].

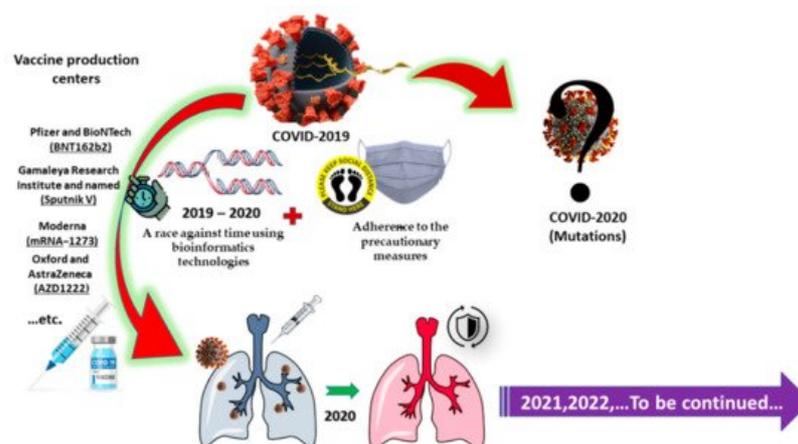


Figure 3. Impact of the COVID-19 pandemic on the vaccine production process and new challenges.

6. Global Warming and Reports on Weather and the Environment during the COVID-19 Pandemic

Despite the epidemic's impact on humans, it has been somewhat beneficial to nature during the pause from human activity.

Changes started to be noticed in the calculations after a small period post-implementation of COVID-19 precautions as a result of the reduced use of coal-fired power stations and less oil burned for transportation, and a 20% drop in the scale of greenhouse gas emissions was observed by March 2020 in China. Chinese cities reported an approximately 40% drop in comparison to the same period in 2019 ^{[59][60]}.

In the United States, a third of Americans drink groundwater as their primary source of hydration and most neighborhoods are located near factories, which may increase the risk of wastewater leaking into the groundwater ^[61].

A 50% increase in deforested areas according to the Brazilian National Institute for Space Research (INPE) was already noticed in the first quarter of 2020 compared to the previous year ^[36].

7. Conclusions

COVID-19 poses a great threat to global health. After the aggravation of the pandemic, it is no longer just a transient health condition but rather has led to global quarantines. Countries have begun a battle of endurance in regard to confronting the disease spread.

Sometimes, misfortunes come with benefits. During the crisis, the greatest benefit to the land and to nature resulted from human quarantine. The global climate recorded high cure rates and gave humans a definitive guide about how to solve some of nature's problems that had previously been thought to be impossible. Response from nature served to alert humans and provided insights into human selfishness and negligence of nature.

Recently, some communities have begun to relax their precautionary measures again when confronting the disease. Although social distance and healthcare strategies are the main methods used to avoid disease spread, communities have noticed that these strategies have consequences for mental health; for children, and younger and elder individuals; and for the poor or those with limited income ^{[62][63]}. Negative effects extend also to food availability and the economy. Patience and rationality are very much required when making decisions during the coming period or the post-pandemic period and when returning to normal life in order to avoid experiencing a relapse in the spread of the disease. It is necessary to think outside the box and not only to identify the negative points but also to learn from them. Ideas or, more precisely, evolutionary leaps that create a better society with greater intellect and awareness of immunity always sprout during crises and even wars.

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