ISSN No:-2456-2165

The Positive and Negative Impacts of Coronavirus Pandemic on the Environment and World Health

[1.] Dr. Naila Chaudary
[MBBS, P.G(O&G)],
Lecturer in Asian Medical Institute Kyrgyzstan

[2.] Dr. Sheraz Khan [MBBS],
Lecturer in Asian Medical Institute
Kyrgyzstan

Abstract:- The COVID-19 is an infectious disease with the severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) causative agent. It was formerly known as pneumonia of unknown etiology. On 30 January, 2020, the World Health Organization declared the outbreak as an International Public Health Emergency, and a global pandemic on 11 March, 2020. This essay begins by describing the situation of people dealing with the outbreak, especially developing and least developed countries. It then describes both the positive and negative environmental impacts of COVID-19. Reduced noise pollution, enhanced water, and air quality, and diminished use of fuel. Meanwhile, there are also some negative consequences of COVID-19, such as an increase in medical waste, unrestricted use and disposal of disinfectants, PPE, plastic wastes, and the burden of untreated wastes continuously jeopardizing the environment. Subsequently, it explores the wide-ranging effects on people's social and economic lives.

I. INTRODUCTION

Lockdowns were implied to reduce the transmission of the virus in communities and countries as a precautionary measure. After the restricted movement of people, a sudden change in the environment was seen, air quality was improved since industries were closed which led to a decline in various harmful gases like NO2, stoppage of industrial waste and sewage resulted in clean water bodies. The lockdown seemed to be a blessing for the environment, notably for the animals and plants. Wild animals seemed to be set for a vacation. Moving from wildlife to human society, the circumstances are worse in rural areas. Millions of migrant and low-wage workers lost their jobs and several small-scale industries faced losses during the lockdown. Everyone is affected by the global outbreak somehow, depending on their status. The separation of individuals due to the pandemic is leading to limited access to clean water, healthy food, open space, necessary stores, and facilities. It's the government and the proficient citizens of the country's responsibility to provide basic amenities for people living farther away. The abundance of people at risk of starvation could almost double because of the pandemic crisis. On the other hand, the COVID-19 pandemic has now changed the way education was delivered. Online classes have made students self-disciplined and saved their time, money, and fuel. Unfortunately, studying online takes all the physical interaction between students and teachers. It impacted the majority of the learners worldwide in some way, from lack of technology at home to be distracted on the other side.

II. SITUATION DISCUSSION

Currently, the world is undergoing the most critical economic and health crisis. The economic contraction has affected its majority of exercises, including trade and labor. However, due to the outbreak and travel restrictions, the least developed countries are experiencing reduced demands, remittances, lack of financial resources, crime, a decline in export and import. Moreover, workers in the informal sector were laid off without monetary return. Mass unemployment is leading to a decline in the food supply, shortage of essential medicines, and inadequate access to proper healthcare systems. Global efforts should be made, to ensure that public goods and medical facilities should reach the most vulnerable population first. In addition to supporting, the private sector, NGOs, and international communities should come in front to administer sufficient relief. Nowadays, the second wave of COVID-19 is proceeding; there has been a tenfold increase in the death rate. Additionally, a dilemma with the lack of medical equipment, beds, and oxygen is to be solved.

The increasing danger of household and biomedical waste is a challenge for human beings. The production and use of plastics are globally rising giving a major threat to the well-being and the environment. Improper handling and poorly managed biomedical waste is a potential source of infection. To prevent such nosocomial infections, some biomedical waste management guidelines have been amended. To illustrate, the N95 mask, head cap, linen gown and face shield, nitrile gloves, and apron should be disposed of in the color-coded yellow bag and red bag respectively. Incorrect disposal due to unawareness of waste management can lead to an increase in toxins in water systems affecting the environment. The demand for PPE, such as medical masks, gowns, and gloves, is continuously rising. The WHO recommended N95 masks are manufactured of synthetics such as polypropylene and polyethylene terephthalate which as a matter of concern degrade into smaller micro plastic pieces and endure for a long time and release hazardous toxic elements into the atmosphere. An existing solution could be eliminating plastics or using environmental-friendly products and packaging that can be more effortlessly

recycled and expanding waste collection, particularly in lower-income countries.

III. CONCLUSION

The pandemic has a massive influence on the mental health of people. One can improve by staying positive, meditation, eating healthy, communicating with loved ones. The understanding and awareness of the disease are significant parameters for the selection of protective measures that minimize the exposure risk of the illness. Therefore, online health promotion and awareness programs are assured to address less educated and non-healthcare professionals of the population. Other educating maneuverings, by tracking mobile applications (like Aarogya Setu in India). On the current level of awareness, knowledge concerning proper tests, medicines, waste management, and vaccinations should be developed and executed more effectively to eradicate this disease. In new normal, social distancing norms, the use of proper masks and sanitizers must be followed. Likewise, walk-through-disinfectant tunnels should be constructed in crowded places. To minimize the risk of infection, maintain cleanliness and hygiene, after all, clean is the new cool.

Conflict of interest : None

Funding source: None

REFERENCES

[1]. 1.Erol A. High-dose intravenous vitamin C treatment for COVID-19 (a mechanistic approach) OSF Preprints . 2020 doi: 10.31219/osf.io/p7ex8. [CrossRef] [Google Scholar]
[2]. Grant W. B., Lahore H., McDonnell S. L., et al. Evidence that vitamin D supplementation could reduce risk of influenza and COVID-19 infections and deaths. Nutrients . 2020;12(4) doi: 10.3390/nu12040988.988 [PMC free article] [PubMed] [CrossRef] [Google Scholar]
[3]. Martindale R., Patel J. J., Taylor B., Arabi Y. M., Warren M., McClave S. A. Nutrition therapy in critically ill patients with coronavirus disease 2019. Journal of Parenteral and Enteral Nutrition . 2020;44(7):1174–1184. doi: 10.1002/jpen.1930. [PMC free article] [PubMed] [CrossRef] [Google Scholar]
[4]. Quesada-Gomez J. M., Entrenas-Castillo M., Bouillon R. Vitamin D receptor stimulation to reduce acute respiratory distress syndrome (ARDS) in patients with coronavirus SARS-CoV-2 infections. The Journal of Steroid Biochemistry and Molecular Biology . 2020;202 doi: 10.1016/j.jsbmb.2020.105719.105719 [PMC free article] [PubMed] [CrossRef] [Google Scholar]
[5]. de Almeida Brasiel P. G. The key role of zinc in elderly immunity: a possible approach in the COVID-19 crisis. Clinical Nutrition ESPEN . 2020;38:65–66. doi: 10.1016/j.clnesp.2020.06.003. [PMC free article] [PubMed] [CrossRef] [Google Scholar]
[6]. Brugliera L., Spina A., Castellazzi P., et al. Nutritional management of COVID-19 patients in a rehabilitation unit. European Journal of Clinical Nutrition . 2020;74(6):860–863. doi: 10.1038/s41430-020-0664-x. [PMC free article] [PubMed] [CrossRef] [Google Scholar]
[7]. Isidro R. A., Lopez A., Cruz M. L., et al. The probiotic VSL#3 modulates colonic macrophages, inflammation, and microflora in acute trinitrobenzene sulfonic acid colitis. Journal of Histochemistry and Cytochemistry . 2017;65(8):445–461. doi: 10.1369/0022155417718542. [PMC free article] [PubMed] [CrossRef] [Google Scholar]
[8]. Miyah Y., Lahrichi A., Kachkoul R., et al. Multi-parametric filtration effect of the dyes mixture removal with the low cost materials. Arab Journal of Basic and Applied Sciences. 2020;27(1):248–258. doi: 10.1080/25765299.2020.1776008. [CrossRef] [Google Scholar]
[9]. Ozcariz-Fermoselle M. V., de Vega-Luttmann G., Lugo-Monter F. d. J., Galhano C., Arce-Cervantes O. Castro P., Azul A. M., Leal Filho W., Azeiteiro U. M., editors. Promoting circular economy through sustainable agriculture in Hidalgo, recycling of agro-industrial waste for production of high nutritional native mushrooms. Climate Change Management . 2019:455–469. doi: 10.1007/978-3-319-75004-0_26. Climate Change-Resilient Agriculture and Agroforestry. [CrossRef] [Google Scholar]
[10]. Elouahli A., Zbair M., Anfar Z., et al. Apatitic tricalcium phosphate powder: high sorption capacity of hexavalent chromium removal. Surfaces and Interfaces . 2018;13:139–147. doi: 10.1016/j.surfin.2018.09.006. [CrossRef] [Google Scholar]
[11]. Hakeem K. R., Bhat R. A., Qadri H., editors. Bioremediation and Biotechnology: Sustainable Approaches to Pollution Degradation . Cham: Springer International Publishing; 2020. [CrossRef] [Google Scholar]
[12]. Benjelloun M., Miyah Y., Akdemir Evrendilek G., Zerrouq F., Lairini S. Recent advances in adsorption kinetic models: their application to dye types. Arabian Journal of Chemistry. 2021;14(4) doi: 10.1016/j.arabjc.2021.103031.103031 [CrossRef] [Google Scholar]
[13]. Ourhedja A., Miyah Y., Bargach M. N., Zerrouq F., Tadili R. Assessment and characterization of the physicochemical parameters of Moroccan leachate during the confinement period (coronavirus) Moroccan Journal of Chemistry. 2021;9(2):369–378. doi: 10.48317/IMIST.PRSM/MORJCHEM-V9I2.27594. [CrossRef] [Google Scholar]
[14]. Jia X., Klemeš J. J., Alwi S. R. W., Varbanov P. S. Regional water resources assessment using water scarcity pinch analysis. Resources, Conservation and Recycling . 2020;157 doi: 10.1016/j.resconrec.2020.104749.104749 [CrossRef] [Google Scholar]

[15]. Ungureanu N., Vlăduț V., Voicu G. Water scarcity and wastewater reuse in crop irrigation. Sustainability . 2020;12(21) doi: 10.3390/su12219055.9055 [CrossRef] [Google Scholar]
[16]. Ji B., Zhao Y., Wei T., Kang P. Water science under the global epidemic of COVID-19: bibliometric tracking on COVID-19 publication and further research needs. Journal of Environmental Chemical Engineering . 2021;9(4) doi: 10.1016/j.jece.2021.105357.105357 [PMC free article] [PubMed] [CrossRef] [Google Scholar]
[17]. Gama C., Relvas H., Lopes M., Monteiro A. The impact of COVID-19 on air quality levels in Portugal: a way to assess traffic contribution. Environmental Research . 2021;193 doi: 10.1016/j.envres.2020.110515.110515 [PMC free article] [PubMed] [CrossRef] [Google Scholar]
[18]. Stufano A., Lisco S., Bartolomeo N., et al. COVID19 outbreak in Lombardy, Italy: an analysis on the short-term relationship between air pollution, climatic factors and the susceptibility to SARS-CoV-2 infection. Environmental Research. 2021;198 doi: 10.1016/j.envres.2021.111197.111197 [PMC free article] [PubMed] [CrossRef] [Google Scholar]
[19]. Faridi S., Yousefian F., Janjani H., et al. The effect of COVID-19 pandemic on human mobility and ambient air quality around the world: a systematic review. Urban Climate. 2021;38 doi: 10.1016/j.uclim.2021.100888.100888 [CrossRef] [Google Scholar]
[20]. Addas A., Maghrabi A. The impact of COVID-19 lockdowns on air quality-A global review. Sustainability. 2021;13(18) doi: 10.3390/su131810212.10212 [CrossRef] [Google Scholar]
[21]. Kumar D., Singh A. K., Kumar V., Poyoja R., Ghosh A., Singh B. COVID-19 driven changes in the air quality; a study of major cities in the Indian state of Uttar Pradesh. Environmental Pollution. 2021;274 doi: 10.1016/j.envpol.2021.116512.116512 [PMC free article] [PubMed] [CrossRef] [Google Scholar]
[22]. Lee M., Finerman R. COVID-19, commuting flows, and air quality. Journal of Asian Economics. 2021;77 doi: 10.1016/j.asieco.2021.101374.101374 [PMC free article] [PubMed] [CrossRef] [Google Scholar]
[23]. Morales-Solís K., Ahumada H., Rojas J. P., et al. The effect of COVID-19 lockdowns on the air pollution of urban areas of central and southern Chile. Aerosol and Air Quality Research. 2021;21(8) doi: 10.4209/aaqr.200677.200677 [CrossRef] [Google Scholar]
[24]. Yousefian M., Amani A., Seyedarabi H., Farhoudi M. Disparity improvement of brain tissues after MRI segmentation in tDCS rehabilitation. Proceedings of the 2020 28th Iranian Conference on Electrical Engineering (ICEE); August 2020; Tabriz, Iran. pp. 1–5. [CrossRef] [Google Scholar]
[25]. Jafari A. J., Faridi S., Momeniha F. Temporal variations of atmospheric benzene and its health effects in Tehran megacity (2010-2013) Environmental Science and Pollution Research . 2019;26(17):17214–17223. doi: 10.1007/s11356-019-05086-1. [PubMed] [CrossRef] [Google Scholar]
[26]. Kroll J. H., Heald C. L., Cappa C. D., et al. The complex chemical effects of COVID-19 shutdowns on air quality. Nature Chemistry. 2020;12(9):777–779. doi: 10.1038/s41557-020-0535-z. [PubMed] [CrossRef] [Google Scholar]
[27]. Ming W., Zhou Z., Ai H., Bi H., Zhong Y. COVID-19 and air quality: evidence from China. Emerging Markets Finance and Trade . 2020;56(10):2422–2442. doi: 10.1080/1540496X.2020.1790353. [CrossRef] [Google Scholar]
[28]. Wang Q., Su M. A preliminary assessment of the impact of COVID-19 on environment - a case study of China. The Science of the Total Environment . 2020;728 doi: 10.1016/j.scitotenv.2020.138915.138915 [PMC free article] [PubMed] [CrossRef] [Google Scholar]
[29]. Sarkodie S. A., Owusu P. A. Impact of COVID-19 pandemic on waste management. Environment, Development and Sustainability . 2021;23(5):7951–7960. doi: 10.1007/s10668-020-00956-y. [PMC free article] [PubMed] [CrossRef] [Google Scholar]
[30]. Cosgrove K., Vizcaino M., Wharton C. COVID-19-Related changes in perceived household food waste in the United States: a cross-sectional descriptive study. International Journal of Environmental Research and Public Health. 2021;18(3) doi: 10.3390/ijerph18031104.1104 [PMC free article] [PubMed] [CrossRef] [Google Scholar]
[31]. Almulhim A. I., Ahmad I., Sarkar S., Chavali M. Consequences of COVID-19 pandemic on solid waste management: scenarios pertaining to developing countries. Remediation Journal. 2021;31(4):111–121. doi: 10.1002/rem.21692. [PMC free article] [PubMed] [CrossRef] [Google Scholar]
[32]. McKibbin W., Fernando R. Australian National University; 2020. The global macroeconomic impacts of COVID-19: seven scenarios. CAMA Working Paper Technical Report CAMA Aust. [CrossRef] [Google Scholar]
[33]. Pan X. Asymptomatic cases in a family cluster with SARS-CoV-2 infection. The Lancet Infectious Diseases . 2020;20(4):410–411. doi: 10.1016/S1473-3099(20)30114-6. [PMC free article] [PubMed] [CrossRef] [Google Scholar]
[34]. Benker B. Stockpiling as resilience: defending and contextualising extra food procurement during lockdown. Appetite. 2021;156 doi: 10.1016/j.appet.2020.104981.104981 [PMC free article] [PubMed] [CrossRef] [Google Scholar]
[35]. Zhou C., Yang G., Ma S., Liu Y., Zhao Z. The impact of the COVID-19 pandemic on waste-to-energy and waste-to-material industry in China. Renewable and Sustainable Energy Reviews. 2021;139 doi: 10.1016/j.rser.2020.110693.110693 [CrossRef] [Google Scholar]

[36]. Hua J., Shaw R. Corona virus (COVID-19) "infodemic" and emerging issues through a data lens: the case of China. International Journal of Environmental Research and Public Health . 2020;17(7) doi: 10.3390/ijerph17072309.2309 [PMC free article] [PubMed] [CrossRef] [Google Scholar]
[37]. Nundy S., Ghosh A., Mesloub A., Albaqawy G. A., Alnaim M. M. Impact of COVID-19 pandemic on socio-economic, energy-environment and transport sector globally and sustainable development goal (SDG) Journal of Cleaner Production . 2021;312 doi: 10.1016/j.jclepro.2021.127705.127705 [CrossRef] [Google Scholar]
[38]. Corpus-Mendoza A. N., Ruiz-Segoviano H. S., Rodríguez-Contreras S. F., Yañez-Dávila D., Hernández-Granados A. Decrease of mobility, electricity demand, and NO2 emissions on COVID-19 times and their feedback on prevention measures. The Science of the Total Environment . 2021;760 doi: 10.1016/j.scitotenv.2020.143382.143382 [PMC free article] [PubMed] [CrossRef] [Google Scholar]
[39]. Krarti M., Aldubyan M. Review analysis of COVID-19 impact on electricity demand for residential buildings. Renewable and Sustainable Energy Reviews . 2021;143 doi: 10.1016/j.rser.2021.110888.110888 [CrossRef] [Google Scholar]
[40]. Atalan A. Is the lockdown important to prevent the COVID-19 pandemic? Effects on psychology, environment and economy-perspective. Annals of Medicine and Surgery . 2020;56:38–42. doi: 10.1016/j.amsu.2020.06.010. [PMC free article] [PubMed] [CrossRef] [Google Scholar]
[41]. Pillay A. L., Barnes B. R. Psychology and COVID-19: impacts, themes and way forward. South African Journal of Psychology . 2020;50(2):148–153. doi: 10.1177/0081246320937684. [CrossRef] [Google Scholar]
[42]. Kawohl W., Nordt C. COVID-19, unemployment, and suicide. The Lancet Psychiatry . 2020;7(5):389–390. doi: 10.1016/S2215-0366(20)30141-3. [PMC free article] [PubMed] [CrossRef] [Google Scholar]
[43]. Troyer E. A., Kohn J. N., Hong S. Are we facing a crashing wave of neuropsychiatric sequelae of COVID-19? Neuropsychiatric symptoms and potential immunologic mechanisms. Brain, Behavior, and Immunity. 2020; 87:34 –39. doi: 10.1016/j.bbi.2020.04.027. [PMC free article] [PubMed] [CrossRef] [Google Scholar]
[44]. Liu S. Online mental health services in China during the COVID-19 outbreak. The Lancet Psychiatry . 2020;7(4):e17–e18. doi: 10.1016/S2215-0366(20)30077-8. [PMC free article] [PubMed] [CrossRef] [Google Scholar]
[45]. Stoll J., Müller J. A., Trachsel M. Ethical issues in online psychotherapy: a narrative review. Frontiers in Psychiatry . 2020;10 doi: 10.3389/fpsyt.2019.00993.993 [PMC free article] [PubMed] [CrossRef] [Google Scholar]
[46]. Békés V., Aafjes-van Doorn K. Psychotherapists' attitudes toward online therapy during the COVID-19 pandemic. Journal of Psychotherapy Integration . 2020;30(2):238–247. doi: 10.1037/int0000214. [CrossRef] [Google Scholar]
[47]. Duan L., Zhu G. Psychological interventions for people affected by the COVID-19 epidemic. The Lancet Psychiatry . 2020;7(4):300–302. doi: 10.1016/S2215-0366(20)30073-0. [PMC free article] [PubMed] [CrossRef] [Google Scholar]
[48]. Petrie C. 2020. Spotlight: Quality education for all during COVID-19 crisis. HundrED; Organisation for Economic Co-Operation and Development.
[49]. Tarkar P. Impact of Covid-19 pandemic on education system. International Journal of Advanced Science and Technology . 2020;29(9):3. [Google Scholar]
[50]. Subedi S., Nayaju S., Subedi S., Shah S. K., Shah J. M. Impact of E-learning during COVID-19 pandemic among nursing students and teachers of Nepal. International Journal of Science Healthcare Research . 2020;5(3):9. [Google Scholar]