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Multifaceted Impacts of Pandemics on the Society

Arivuchudar R^{*1}, Tamilchudar R², Sendilkumar B³¹Department of Nutrition and Dietetics, Periyar University, Salem, Tamilnadu, India²Department of Optometry, School of Allied Health Sciences, VMRF-DU, Salem, Tamilnadu, India³Department of Allied Health Sciences, VMRF-DU, Salem, Tamilnadu, India

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ABSTRACT

The pandemic Corona Virus Disease (COVID-19) which has hampered the globe since December 2019 has endangered the livelihood of human race. Corona Virus Disease is a new strain of coronavirus that twitches with symptoms of fever, sore throat with dry cough, body ache, fatigue, anosmia (loss of sense of smell), dysgeusia (loss of sense of taste) resembling the ailments of common flu within two to fourteen days of exposure. Recently, emesis and diarrhoea are also seen as indicators in most of the patients. When the severity of the disease increases, the pulmonary system is impaired, and the artificial respiratory system support becomes essential for survival. It is not only the ratio of morbidity or mortality that prerequisites insights on discussion about the pandemic, rather there are many other arenas that needs to be pondered. Although, the preventive measures like personal hygiene, social distancing, self-quarantine in case of suspicion, followed by the individuals and the measures implemented by the Government like curfew, have proven effective in reducing the number of victims to coronavirus, the socio-economic dangers caused to human society is at large. Hence, this study aims to review the threats and challenges posed by the pandemics, like Corona Virus Disease on the grounds of education, economic security, food and nutrition security, physical health and psychological health.



*Corresponding Author

Name: Arivuchudar R

Phone: 9865819342

Email: achudar24@gmail.com

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INTRODUCTION

Pandemic refers to the large scale outbreak of a new infectious disease claiming many lives. (Madhav *et al.*, 2017). (Porta, 2014) has defined pandemic as an epidemic affecting international boundaries, wherein epidemic causes morbidity or mortality in a

specified community. The history of the term "Pandemic" dates back to 3000 B.C. The major pandemics that quivered the world are,

Black Death or Bubonic plague The first pandemic that had been reported in 1346-1353, (Jarus, 2020) was a bacterial transmission affecting the population across Europe and Asia. American Plague In 16th century (Jarus, 2020) with a collection of diseases or infections, which included small pox as a major outbreak was transmitted to Americans by the European travellers. Fifth Cholera Pandemic encountered in 1881, was also a bacterial transmission accounting for 1.5 million deaths globally. Flu pandemic occurred between 1889-1890, originated in Russia and spread to rest of the world claiming the lives of a million people. (Johnson and Mueller, 2002), have reported that the Spanish flu pandemic existed between 1918-1920, have killed 20 million to 100 million people globally.

The factors like social distancing and curfew were first reported during this pandemic. In 1957-1958, another major pandemic witnessed by the world was Asian Flu. (Viboud *et al.*, 2016). With its origin in China, nearly 0.7 million to 1.5 million people died.

Acquired Immuno Deficiency Syndrome (AIDS) a pandemic identified in 1981 and present till date was transmitted to humans by chimpanzee in Africa through Human Immuno Deficiency Virus. It has caused 36 million deaths (World Health Organization's, 2018) and still 40 million people are estimated to be carriers. Severe Acute Respiratory Syndrome (SARS) was a global outbreak in 2003, affecting 37 countries, the signs and symptoms being similar to the COVID experienced at present. The glad news is that the death rate was minimal with 744 deaths. (Wang and Jolly, 2004). H1N1 swine flu pandemic evoked in 2009-2010, from Mexico affected around 1.4 billion people across the globe with a death rate of 1,51,700 to 5,74,500 (Centres for Disease Control and Prevention, 2009), causing more deaths in younger age group. Ebola virus disease originated in 2014 from West Africa spread its wings across 10 countries till 2016, took 11323 lives. (World Health Organization, 2016) Zika virus pandemic identified in South America and Central America in 2015, ravaged children and foetus. Aedes mosquitoes were the carriers of Zika virus, spreading to humans. 2656 cases were reported among 76 countries. (Gotlib, 2017)

Corona Virus Disease or SARS-CoV-2 virus

Related to bats instigated in China in December 2019. Since then, to till date COVID-19 has affected 11 million people across 213 countries, 6 million people have recovered and nearly 5, 20,000 deaths have been reported. It affects the respiratory system of the infected persons. People with weakened immune system and with co-morbidities are found more susceptible to the disease.

The spread of corona virus infection is so rapid, as the virus is transmitted through droplets. A close proximity with the infected person or contact with the surface, contaminated with the droplets of the infected person are considered as the main source of infection. Hence, the preventive measure could only be social distancing and personal hygiene. Looking into the history, it can be determined that most of the pandemics are zoonotic (Transmission of pathogens is from animals to humans). The pathogens being virus, gets amply amended to humans and the transmission chain prolongs. As the virus gets highly mutated, the frequent change in the morphological characteristics may be a rea-

son that the scientist are unable to find vaccines for such pathogenic viruses.

Multifaceted impact of pandemics

The pandemics like COVID has ruined the world in multifaceted ways. Political instability, social discriminations, economic backwardness, lack of food, malnutrition and psychological stress among people and nations are few to mention. The following pages review each one in detail.

Impact on Economy

Pandemics can cause economic damage through multiple channels, including short-term fiscal shocks and longer-term negative shocks to economic growth. (Madhav *et al.*, 2017). The transmission or the spread of the pandemic affects the trade, as the transport and exchange system is abridged. The human labour cannot be utilised hence, the sources of income from the agricultural sector, industry, trade and commerce, are shut. On the other hand, strengthening of medical infrastructure, expenses on food steadily rise. This results in a negative economy balance, as there is no income but expenses are rising inversely for the individuals and the Government. According to the Asian Development Bank, \$ 5.8 trillion to \$ 8.8 trillion economic loss has been estimated worldwide. Also, in Asia, the preventive measures to control the spread may inflict an economic loss of \$1.7 trillion to \$2.5 trillion and in China it would be between \$1.1 trillion and \$1.6 trillion in China (Manila, 2020). Due to lay-offs around 158 million to 242 million people will lose work and the global trade will be affected due to travel restrictions and curfews causing a loss of \$1.7 trillion to \$2.6 trillion. Loss of income, increase in household goods prices, unavailability of essentials for survivals due to lack of transport, all together impose financial burden on individuals, which provoke them for fatal decisions like suicides.

Effect on Food and Nutrition Security

Pandemic and its impact on food and nutrition is a vicious cycle. Some economic impacts will persist beyond the height of the pandemic. (Hall *et al.*, 2020). The first and foremost effect of pandemic is reflected by lay-offs. In spite of lack of regular income the expenses for medicine and food spike during pandemics. On one hand, the food production is reduced, on the other side the transport of food is hindered owing to food wastage, all together mounting to food insecurity. Also, the prices on food products mount up due to imbalance in demand and supply ratio. In short, the pillars of food security, namely availability, accessibility, stability and utilization are taken aback. This

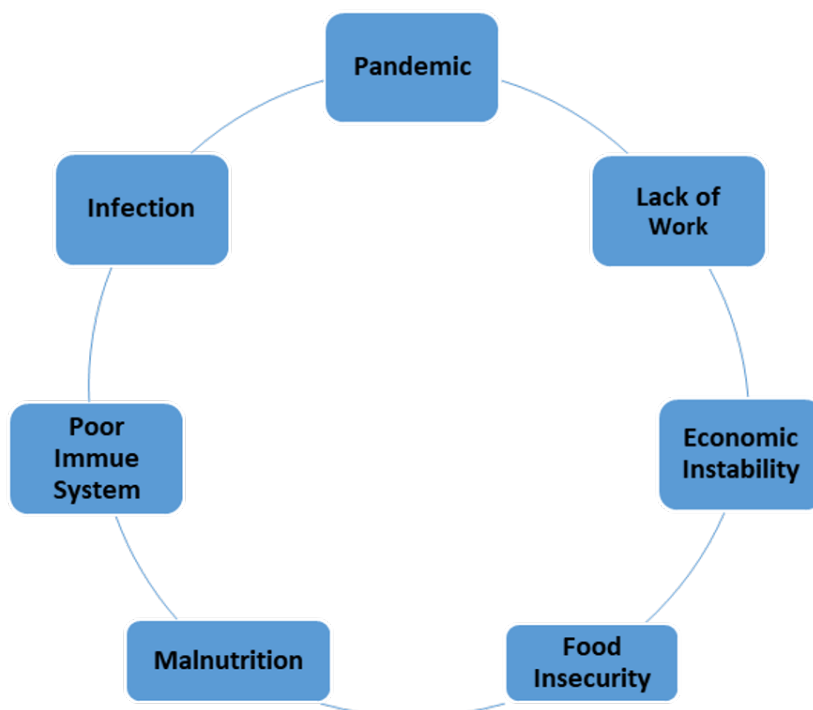


Figure 1: Pandemic and Malnutrition, A Vicious Cycle

in turn is reflected on the inability of the people to spend for food, which clues to malnutrition, weakened immune system and prone for infections as depicted in Figure 1. Impairment in cognitive development, protein-energy malnutrition, wasting and stunted growth may be the implications of food and nutrition insecurity which may run for generations. According to FAO, 75 million children were stunted and 17 million suffered from wasting in 2019. FAO also states that, it is also of concern that, at the end of 2019, 183 million people may be exposed to food insecurity if faced with a shock or stressor such as COVID-19 pandemic (Food and Agriculture Organization, 2020). Hunger deaths may become a common scenario in underdeveloped countries due to pandemic. To an extent, the Government has supported the citizens by providing free rations and vegetables at low-cost through public distribution system. It should also be noted that the agricultural labourers are not paid for non-working days, which may force them to work even while ill, still worsening the health condition of their own and also being a transmitter of the disease to the co-workers.

Influence on Social and Political Outfit

The pandemics influence significantly on socio-political outfits. The possibility of political parties in power facing a setback is high. The probabilities of cold war between the countries, attacks across the countries borders, as existing between India and china during COVID-19, clatters between

citizens and Government, are notable incidences. Some noteworthy changes because of pandemics are: The Black Death pandemic brought an end to Feudal system in Europe (Platt, 2014). During the American plague, the Europeans devastated and gained supremacy over native Americans (Diamond *et al.*, 1997). International Crisis Group in 2015, had reported that the preventive measures taken for controlling the Ebola virus by Africa created a political unrest in Guinea, Liberia and Sierra Leone and also the citizens were also unhappy and suspected the governance leading to rebellions and commotions with the security forces. The Chinese government has been criticised by US, Brazil, Germany, Spain and Turkey Governments as a cause for COVID-19 pandemic, which has led to political tension among nations.

Some of the social impacts to quote because of pandemics are: The Jews were discriminated by the Europeans during Black Death and were denied of treatment. A huge population from Surat moved to various parts of the Country during plague outbreak in 1999. (Barrett and Brown, 2008) The migrant population experienced heavy setback because of loss of loved ones, home, poor nutrition and poor sanitary dwelling, posing threats of further outbreaks in the migrated places.

Impact on Physical Health

The morbidity and mortality rates due to pandemics have already been discussed. People with weak-

ened immune system are prone for infections drastically. Fear may also add to the multitude of diseases. The lapse in medical care due to unavailability of health care or frontline workers to treat common illnesses may lead to morbidity and mortality due to other disease conditions. The main mantra of COVID-19 for most of the employees from Government or Private sectors, IT workers and even teachers is "Work From Home". To a great extent, this can impair the physical health of the employees. The decrease in physical activity, due to long working hours with electronic gadgets lead to obesity and other metabolic disorders like diabetes in future. Dehydration, dryness of eyes, spondylitis and backaches due to poor ergonomics at home are also common ailments suffered. Irregular sleep timings also distresses physical health. Also, binge eating to overcome boredom may cause obesity. People from middle and higher economic group find this curfew, as a time to cook and relish delicious foods, this may lead to obesity if consumed in excess for a long period of time. Spending long hours inside the home may lead to Vitamin D deficiency as direct exposure to sun's rays and bio-availability of vitamin D, an important immune boosting nutrient is reduced. The decrease in Vitamin D supply and physical activity together will hinder calcium absorption, affecting bone or skeletal health. In contrary, people of poor economic status and daily wages, who could not afford for food due to joblessness, suffer from hunger and malnutrition. The health effects will be out shown in the long run.

Effects on Psychological Health

([Neria et al., 2008](#)) has indicated that any disasters in large scale increases depression, domestic violence, child abuse, Post-Traumatic Stress Disorder (PTSD) and substance abuse disorders. Social distancing, joblessness, pay cuts, financial insecurity, fear, anxiety, myriad of worries about the future are the reasons listed behind these wide range of mental disorders. This holds good for COVID-19 too. Every day we are exposed to media news relating to all these wide range of assaults happening due to psychological stress.

Influence on Education System

UNESCO has reported that in India, COVID-19 has affected 32 crore students of schools and colleges. ([Kasrekar and Wadhavane-Tapaswi, 2020](#)). To overcome this, more than any other pandemics experienced in the past, COVID-19 has set a new platform for education. Virtual teaching and learning process has come into effect immediately after the curfew. Teachers have revamped themselves by learning and implementing the digitalization in

teaching process. The Government has also contributed on its part to bridge the gap in education by introducing the one-nation-one platform facility through the PM E-Vidya platform and a dedicated channel for students from Class 1 to Class 12 to liberalize distance and online learning regulatory framework. Though syllabus will be completed and examinations will be conducted through e- mode, no doubt the benefits of face- to face communication and the joy of learning is curtailed. The other side of e-learning, for the students in rural areas or underprivileged, for whom the procurement of e-learning tools and access is not possible are again left back. The plight of students who have not completed the board exam is also uncertain. The impact of online education on physical and mental health is also debatable.

CONCLUSIONS

COVID-19 is the sixth major pandemic faced. Our human race, has met may falls but every tumble is seen as a new opportunity to refurbish. Though COVID-19 has given bitter experiences in all the sectors discussed, the means to overcome perils should be sought. From the Government view point, the strengthening of disaster management should be taken up more seriously. The preparedness to face such challenges like building a strong medical or healthcare supportive team is a must. Financial backing for the common man during pay cuts and layoffs is also a requisite of the Government. Psychological and monetary benefits for the frontline workers is the need of the hour. The positivity is more researches to discover a vaccine is pouring in. As a common man, the most important lesson to learn from the pandemic is the importance of savings. The pandemic has taught to lead a simple and humble life with minimal resources available. Expenditure on luxury should be purged and more expenses towards healthy foods must be encouraged as it helps to build a strong immune system, which is the prime factor for winning a pandemic. Positive attitude and acceptance to accept the change is the chant to overcome the pandemic.

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Conflict of Interest

The authors declare no conflict of interest.

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