An Analysis of Psycho-Social Apprehensions of a Common Man Linked with COVID-19 Pandemic

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Abstract

From the very beginning of the year 2020, people around the globe have a threat to their lives due to the contagious COVID 19, the Corona virus. There is a possibility that the health of millions of people might be affected with respiratory disease. Hence the governments of many countries have taken emergency measures to limit the widespread of this disease. Some of the enforcements are social distancing, quarantine, travel restrictions, prevention of large gatherings, closing of industries and educational institutions. Use of masks and sanitizing has become mandatory. These sudden changes in life have created a panic, stress and psychological rigidness among the people worldwide. This paper addresses the theoretical perspectives of how people are affected psychologically when coping with COVID-19 pandemic.

Keywords: COVID-19, Corona virus, Self isolation, Social distancing, Psychological intervention.

1. Introduction

This COVID-19, Corona disease was initially identified as pneumonia of unknown cause in the Wuhan state of China on 31st December 2019. Then it has become an outbreak and a public health emergency has been declared on 30th January 2020. And now it has become a pandemic. Nearly 2 million cases have been reported positive for COVID -19 infections worldwide. 1.37 lakh people have died due to acute respiratory disease. The good news is that more than 5.75 lakh people have recovered from this disease [1]. The virus spreads from human to human. When a person coughs or sneezes, the virus gets spread through the droplets that travel in air to some distance. When a person comes in close contact with the infected person or when touches an infected surface becomes a carrier of this virus. The COVID-19 virus will survive to a maximum of 72 hours on the surfaces. This virus enters through the mucous layers of eye, nose and mouth of a human being. It is highly contagious. Hence people are advised to wash their hands frequently with a soap or use to sanitizers. The common symptoms of this disease are fever, cough and difficulty in breathing. It takes two to fourteen days for the onset of symptoms from the day of onset of infection [2]. The specific treatment or vaccine has not been identified yet. Hence the preventive measures suggested are hand washing, use of mask to cover the nose and mouth and maintaining distance from other people. The suspected people are advised to isolate themselves for a period of 14 to 28 days. This pandemic has made many disruptions in day to day life of people around the globe. False information about this virus spreads among community through online, media worse than the disease. People are experiencing unknown fear, depression and severe psychological issues continue to emerge.

2. Intensification of COVID-19

As discussed in the previous section, the corona virus disease or COVID -19 is an infectious disease which will lead to respiratory disorders. Elderly people and people with underlying diseases can go for severe illness. As the virus spreads through droplets of saliva, preventive measures should be taken to restrict the disease spread. Multiple surveillance and containment measures are being taken in all the countries. Indian government has announced lock down to restrict people movement and thereby to contain the stretch. An outline of total cases, Active cases and recovered cases analyzed in worldometers.info has been shown in figure 1[3]. The investigation has been made with data from few major countries like United States, Spain, Italy, France, Germany, UK, China, Iran and India.

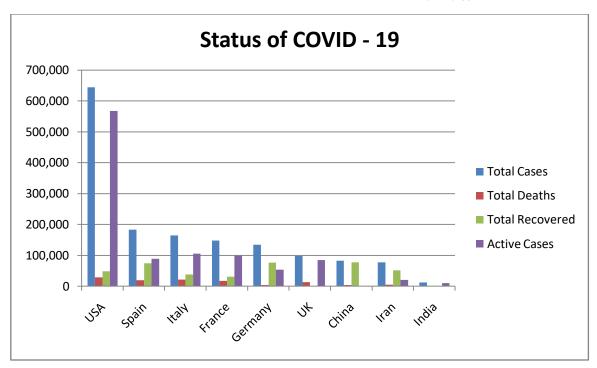


Fig.1 Outline of COVID - 19 Cases as on 16th April 2020

A comparison with specific count as on 16^{th} April 2020 has been given in table 1. The total count around the world is given in the first row of table 1. New cases in third column represent the number of cases reported on that specific day concerned.

 $\label{thm:countries} Table~1~.~Worldwide~Status\\ Courtesy:~https://www.worldometers.info/coronavirus/\#countries~~(16.4.2020)$

Country	Total	New	Total	New	Total	Active
	Cases	Cases	Deaths	Deaths	Recovered	Cases
Around the Globe	2,100,667	18,295	136,048	1,488	523,932	1,440,687
USA	644,417	328	28,559		48,708	567,150
Spain	182,816	2,157	19,130		74,797	88,889
Italy	165,155		21,645		38,092	105,418
France	147,863		17,167		30,955	99,741
Germany	134,753		3,804		77,000	53,949
UK	98,476		12,868		N/A	85,264
China	82,341	46	3,342		77,892	1,107
Iran	77,995	1,606	4,869		52,229	20,897
India	12,456	86	423		1,513	10,520

Though the number of new cases being reported is in increasing trend, the number being recovered gives a positive hope that the world could emerge out of this tough situation. However the sudden change in lifestyle makes everyone in uncertain circumstances. Especially children have to be taken care off. Children will have anxiety and fear of medical treatment, mental agony towards the death of relatives. Both older and younger children would express their irritation and anger. In the case of elder generation and those

with underlying health conditions, they are more said to be vulnerable to this infection. Hence the psychological impact is still worse. The following section discusses about the psychological aspects of COVID-19 among different category of people.

2.1. Social Distancing

The purpose of lockdown is to prevent the spread of infection from one person to another and also to protect ourselves. One should not come out of the house except for very much essential reason. Even when coming out, one should maintain the social distance as prescribed by the respective governments. Different countries follow diverse policies with respect to this isolation and social distancing. China, South Korea and many other countries are insisting the citizens to use mask [4][5]. Full disinfection is done at places where the public crowd is more [6][7]. If the policies are not adopted properly, there is a possibility of converting the physical transmission into airborne transmission [8].

The effects of non-convergence have been discussed in many research papers [9-15]. The lack of social isolation policy, non usage of masks, disinfection practices leads to person-to-person transmission and that has been well discussed by Wickramasinghe et al., [16][17]. All the negligent activities lead to air transmission of virus. With mathematical modeling and deep analysis, the research is being carried out on how the atmospheric parameters like temperature, humidity and wind with respect to COVID-19 spread. This sort of research would be helpful in guiding the people towards normal life. There are multiple factors that have impact on the rate of spread of this virus. The factors could be health policy followed by each country, screening procedures, hospital facilities, Immune system of community, genetics, virus mutation and discipline of the people in adopting self isolation and social distancing. These factors have a strong influence of the spread of the infection.

2.2. Behavioral Aspects and Mental Health

This COVID-19 pandemic has made a sudden change in the life style of people and this lock down would have a devastating effect on the mental health. The sweeping of corona virus and the uncertain situations causes a widespread concern, stress or fear in all classes of people irrespective of gender, age and social, economic status.

To mitigate the spread of this disease people have been advised to isolate them and maintain social distancing. But this has been linked with increase in depression, anxiety and domestic violence. To manage this issue, the World Health Organization has given guidelines in both biomedical and psychological points of view. Though the preventive and medical action is very much important at this stage, it is essential to give psychological crisis interventions for the people affected with COVID-19, their care takers, quarantined family members and health care professionals. As this corona virus infection is increasing exponentially, the false information in social media are also escalating. It adds fuel to the stress of people. The information that the health care facilities are insufficient, non availability of grocery, hysteric behavior of few infected

patients, faulty cure treatment methods and lot more lead to adverse mental health condition. Other mental health fallouts are health anxiety, disturbed sleep, loneliness, panic attacks are also there in this pandemic situation [18][19]. The psychological stress mounts on daily basis due to the repeated messages in all forms of media .

The major factors that affect a common man are the fear about being infected, fear about hospitalization, welfare of dear ones, quarantine panic, concern about job, livelihood and future. The above mentioned factors are depicted in a graph based on the level of intensity as shown in figure 2.

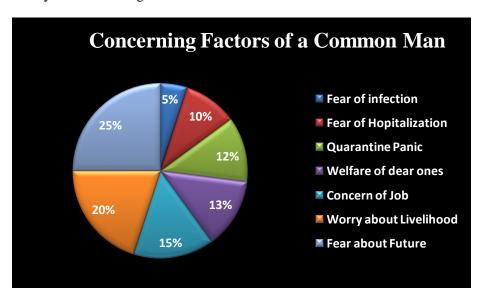


Fig.2 Concerning Factors of a Common Man

Online platforms have been opened up for counseling the above mentioned category of people. Many recommendations have been given in a research articles about the steps to be taken to lessen the impact of social distancing and lock down [20]. The digital technologies can be used to ensure socialization with friends and relatives. However, this lock down period could be made as an opportunity to mingle with family and can have a better understanding.



Fig.3 Guidance by World Health Organization

The elders in the family who have seen such a pandemic in their early life would be excellent advisors. From their experience, people can understand that the situation will be alright and they have to be mentally strong enough with positive attitude and essential preventive measure. World Health Organization (WHO) has given many recommendations to manage this pandemic. One of them has been given here in figure 3 which shows socially connection of youngster with elders. There will be mutual benefit. Elders will not feel loneliness and youngsters can have guidance from elders.

Some of the good practices for the daily routine are narrated here. The day could be started with a proper plan, redefined passion, hobbies, helping the neighbors, learn a new skill through online portals. Other activities like exercise and social connectivity could be done. Stay connected with friends, relatives and professional contacts through chats and video calls. Schedule some time for rests and it could be recharge for the remaining part of the day. And regarding the worries of a common man proper planning of income, budgeting the expenditures, avoiding non essential purchases could help to survive in this tough situation. People could learn to live with minimalism concept. It is essential to develop a positive attitude and focus on motivational things to manage this complex situation.

3. Conclusion

The state administrative people and healthcare professionals have great responsibility in reaching out to public with actual facts and removing the fear. On the technical side, research is carried out to find the vaccine, develop immune system in human with antibodies and development of drugs.

To conclude, pandemics are eventually transient. Everything will be back to near normal in course of time. Need lot of patience and planning. This pandemic has made us to understand the real meaning of life. This COVID-19 virus has made the world as one family. All the countries are working towards a common goal of eradication irrespective of their differences in their policies. Let's be optimistic that challenges make us strong.

References

- [1] Novel Coronavirus (2019-nCoV) situation reports World Health Organization (WHO)
- [2] Chen N, Zhou M, Dong X, Qu J, Gong F, Han Y, et al. (February 2020). "Epidemiological and clinical characteristics of 99 cases of 2019 novel coronavirus pneumonia in Wuhan, China: a descriptive study". Lancet. 395 (10223): 507–513. doi:10.1016/S0140-6736(20)30211-7. PMC 7135076. PMID 32007143.https://www.worldometers.info/coronavirus/#countries
- [3] Feng S, Shen C, Xia N, Song W, Fan M, Cowling BJ. 2020 Rational use of face masks in the COVID-19 pandemic. The Lancet Respiratory Medicine. doi:10.1016/s2213-2600(20)30134-x.
- [4] State Council, China, 2020. Guidelines for the selection and use of different types of masks for preventing new corona virus infection in different populations (in Chinese). Feb 5, 2020. Retrieved from: http://www.gov.cn/xinwen/2020-02/05/content_5474774.htm. Date accessed: March 27, 2020
- [5] GU C, Jiang W, Zhao T, Zheng B. 2020 Mathematical Recommendations to Fight Against COVID-19. SSRN Electronic Journal doi:10.2139/ssrn.3551006.

- [6] Zhong B-L, Luo W, Li H-M, Zhang Q-Q, Liu X-G, Li W-T, Li Y. 2020 Knowledge, attitudes, and practices towards COVID-19 among Chinese residents during the rapid rise period of the COVID-19 outbreak: a quick online cross-sectional survey. International Journal of Biological Sciences 16, 1745–1752. doi:10.7150/ijbs.45221.
- [7] World Health Organization. Rational use of personal protective equipment for coronavirus disease (COVID-19): interim guidance, 27 February 2020. World Health Organization; 2020.
- [8] Luo W, Majumder MS, Liu D, Poirier C, Mandl KD, Lipsitch M, Santillana M. The role of absolute humidity on transmission rates of the COVID-19 outbreak. medRxiv. 2020 Jan 1. doi: 10.1101/2020.02.12.20022467.
- [9] Wang J, Du G. 2020 COVID-19 may transmit through aerosol. Irish Journal of Medical Science (1971 -). doi:10.1007/s11845-020-02218-2.
- [10] Chinazzi M et al. 2020 The effect of travel restrictions on the spread of the 2019 novel coronavirus (COVID-19) outbreak. Science, eaba9757. doi:10.1126/science.aba9757.
- [11] Wickramasinghe NC, Steele EJ, Gorczynski RM, Temple R, Tokoro G, Wallis DH, Klyce B. Growing Evidence against Global Infection-Driven by Person-to-Person Transfer of COVID-19, ViXra.
- [12] Cembalest M. JP Morgan. Eye on the market. Coronavirus (COVID-19) research compilation. March 20, 2020. Retrieved on March, 22 . https://www.jpmorgan.com/jpmpdf/1320748288652.pdf.
- [13] Pirouz B, Shaffiee Haghshenas S, Shaffiee Haghshenas S, Piro P. 2020 Investigating a Serious Challenge in the Sustainable Development Process: Analysis of Confirmed cases of COVID-19 (New Type of Coronavirus) Through a Binary Classification Using Artificial Intelligence and Regression Analysis. Sustainability 12, 2427. doi:10.3390/su12062427.
- [14] Poirier C, Luo W, Majumder M, Liu D, Mandl K, Mooring T, Santillana M. 2020 The Role of Environmental Factors on Transmission Rates of the COVID-19 Outbreak: An Initial Assessment in Two Spatial Scales. SSRN Electronic Journal. doi:10.2139/ssrn.3552677.
- [15] Wickramasinghe NC, Steele EJ, Gorczynski RM, Temple R, Tokoro G, Wallis DH, Klyce B. Growing Evidence against Global Infection-Driven by Person-to-Person Transfer of COVID-19, ViXra.
- [16] Cembalest M. JP Morgan. Eye on the market. Coronavirus (COVID-19) research compilation. March 20, 2020. Retrieved on March, 22 from: https://www.jpmorgan.com/jpmpdf/1320748288652.pdf.
- [17] Neria Y, Nandi A, Galea S. Post-traumatic stress disorder following disasters: a systematic review. Psychol Med. 2008;38(4):467-480. doi:10.1017/S0033291707001353
- [18] Mental Health UK. Managing your mental health during the coronavirus outbreak. https://mentalhealth-uk.org/help-and-information/covid-19-and-your-mental-health/
- [19] Merchant RM, Lurie N. Social media and emergency preparedness in response to novel coronavirus [published online March 23, 2020]. JAMA. doi:10.1001/jama.2020.4469