THE HEALTH IMPACT OF COVID-19 IN INDIA

"He who has health has hope, and he who has hope has everything"
– Arabic Proverb

Part I: Description of the Case

The case study describes the nature of global COVID-19 pandemic. The pandemic has affected all the sectors i.e. economic, social, psychological, health, technological, business, medical and environmental but the case study focuses on health impact of COVID-19 pandemic in India. The methodology used is review methodology. The case study makes use of secondary literature collected from various research papers, annual reports, magazines, journals and websites. Furthermore, the case study reveals that COVID-19 pandemic has impacted health sector adversely. It also offers various suggestions for addressing the negative impacts on health sector due to COVID-19 pandemic.

India along with whole world is facing COVID-19 challenge. The impact of the pandemic is visible in all the sectors at global level. However, the social impact of the pandemic is significant. Therefore, all the nations are not only losing their socio-economic development but also the lives of their fellow citizens. It is a matter of fact that India is got affected from this pandemic on a fast pace and it became second largest worst affected country in the world after United States of America. As on November 15, 2020, at global level, total numbers of cases were 53507282 and total deaths were 1305164 while there were 8814579 cases and 129635 deaths in India.

Coronaviruses are a large family of viruses which may cause illness in animals or humans. In humans, coronaviruses cause respiratory infections such as the common cold as well as Severe Acute Respiratory Syndrome (SARS). The virus was termed as Coronavirus and as COVID-2019 by WHO as it was discovered in Wuhan, Hubei, China in 2019. Due to new virus, it is also known as noble. The source of this virus could not be identified till now. It is shocking that Chinese Ophthalmologist Li Wenliang who had identified this corona virus on December 30, 2019, himself died from this disease on 6.2.2020. COVID-19 has been declared as a pandemic by WHO due to the alarming levels of its spread and severity. Till date, there is no specific medicine to treat or prevent COVID-19. On March 11, 2020, the World Health Organization declared the COVID-19 to be a global pandemic. In India, the first case was found on January 30, 2020 in Thissur, Kerala.

Different people have different symptoms of this disease. Loss of smell and taste was also one of those symptoms. Moreover, it affected different people in different ways. Several people were infected and develop mild to acute illness and also recovered even without hospitalization. However, the most common symptoms are: fever, dry cough and tiredness. Less common symptoms are: aches and pains, sore throat, diarrhea, conjunctivitis, headache, loss of taste and smell and a rash on skin or discoloration of fingers or toes. Serious symptoms are: difficulty in breathing or shortness of breath, chest pain or pressure and loss of speech or movement. People affected by COVID-19 with mild symptoms are healthy and they can manage their treatment at home. On an average, it takes 5-6 days for symptoms to surface, however it can take up to 14 days. The corona virus after entering the body starts infecting healthy cells. More important fact is that the numbers of cells increase in multiple numbers. This virus leaves oily protein on healthy cells and later on it breaks. Thus the healthy cells of the body start dying affecting the lungs. This virus is found amidst air or any surface. This virus enters into a human body either through nose or mouth. Soon after which, the immune system of the affected person starts weakening.

Types of COVID-19 Tests:

1. Antibody Test for COVID-19: In this test, few drops of blood are used to determine whether the human body has antibodies for coronavirus.

2. NAT and RT-PCR Tests for COVID-19: For testing the virus, two kinds of tests are available: NAT-Nucleic Acid Test and RT-PCR –Reverse Transcription-Polymerase Chain Reaction Test. Both tests require a nasal and throat swab.

3. Serological Testing: Serological Surveys can also be performed in addition to these tests. The serum samples may support diagnosis if validated serology tests are available. Serum samples can be stored for these purposes. The possible problem with serological tests may include the cross reactivity of other coronaviruses.

Source: Invention Intelligence, 2020, Page 9 & Dream 2047, May 2020, Page 27.

Glossary of COVID-19-related terms

Coronavirus: One of the viruses in the family of viruses that has a spiky "crown"-like appearance under a microscope. These range in severity from the common cold to the far more deadly SARS and MERS viruses.

MERS: Short for Middle East Respiratory Syndrome, a highly contagious virus that was first seen and reported in Saudi Arabia during 2012.

SARS: Short for Severe Acute Respiratory Syndrome (SARS), a viral respiratory illness caused by a coronavirus, and which was first seen and reported in February 2003.

SARS-CoV-2: Another abbreviation for COVID-19. It refers to the fact that COVID-19 is a SARS illness caused by a coronavirus.

COVID -19: The World Health Organization gave this name to the illness caused by the new coronavirus that first appeared in China in late 2019. It is short form for "coronavirus disease 2019".

Outbreak: A sudden increase in diagnoses of a particular illness.

Pandemic: An "outbreak" affecting large populations or a whole region, country, or continent (as compared to an "epidemic," which affects a particular community).

Contagious: An adjective meaning "capable of spreading an illness." The issue with COVID-19 is the length of time during which people are "contagious," which might be for as long as 14 days from the time they are first infected with it.

Incubation Period: It is the time between exposure to an illness and actually showing symptoms. People exposed to COVID-19 can take up to 14 days to show symptoms.

Containment: This refers to the effort to limit the spread of illness. Therefore, "containment" is accomplished via "social distancing," "isolation," and "quarantine".

Close Contact: Being within 6 feet of another person such that a "droplet" from one person could land on the other person or something the other person is wearing or holding.

Droplet: A particle of moisture from the respiratory system. Droplets expelled by someone infected with COVID-19 can spread the virus to another person if the second person touches the droplet and introduces it into his/her own respiratory system (by touching one's eyes, lips, or nose).

Airborne Transmission: This is also accomplished via droplet, but a much smaller droplet –one that is small enough to be imperceptible in the air. Most COVID-19 cases are not transmitted this way.

Confirmed Case: A person who tests positive for COVID-19 via a CDC-approved lab.

Presumptive Positive Test Result: A positive test for COVID-19 that was performed by a local or state health laboratory. Presumptive becomes "confirmed" when testing is conducted in a CDC-approved lab.

Curve: A graphic representation of the number of new cases of a disease over a given period of time. The more the number of case during that period of time, the steeper is the curve and the greater is the burden on the healthcare system.

Face Mask: Loose-fitting paper or cloth masks that form a physical barrier between the wearer and other people, with the purpose being to prevent the wearer from spreading germs while they sneezing or coughing.

Respirator: For COVID-19 purposes, a respirator is not a machine to help one breathe but a type of face mask that acts as a barrier and it also filters out virus particles before they can be inhaled.

N95 respirator: A respirator that filters out 95% of virus particles.

Quarantine: The isolation of someone who has been diagnosed with an illness, has symptoms of the illness, or has reason to believe that he or she had been exposed to the illness from other people. The duration of quarantine is guided by the incubation period for the particular illness. Quarantine can be imposed on a person or it can be self-administered.

Social Distancing: It is the practice of maintaining enough distance between yourself and another person to reduce the risk of breathing in droplets that are produced when an infected person coughs or sneezes. In a community, social distancing measures may include limiting or cancelling large gatherings of people.

Ventilator: A machine that moves air in and out of the lungs in the case that a patient cannot or is having trouble breathing on his own.

Shelter-in-place: Finding a safe location and staying there while the crisis continues.

Lockdown: A non- technical word for referring to any kind of public health measures taken to prevent the virus from spreading.

Spanish Flu: Active between April of 1918 and December 1920, this flu, which most likely originated in China but got its name from the nation that, at least initially, put out the most media coverage of the outbreak (this was a function of wartime politics).

State-of-emergency: Declaring a state of emergency gives government officials the authority to take extra measures to protect the public, such as suspending regulations or reallocating funds to mitigate the spread of a disease.

CDC: Centers for Disease Control and Prevention (the U.S. health protection agency and a leading reliable source for COVID-19 updates for the U.S.).

WHO: The World Health Organization, which is an agency of the United Nations responsible for international public health.

Source: COVID-19 Special, Vigyan Prasar, Dream 2047, May 2020.

Importance of Health Communication

In 1948, World Health Organization defined health as, "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity". In 1986, WHO made further clarifications, "A resource for everyday life, not the objective of living. Health is a positive concept emphasizing social and personal

resources, as well as physical capacities." This means that health is a resource to support an individual's function in wider society, rather than an end in itself. A healthful lifestyle provides the means to lead a full life with meaning and purpose. In 2009, researchers publishing in The Lancet defined health as the ability of a body to adapt to new threats and infirmities. The ultimate goal of World Health Organization is to attain the goal of health for all in the spirit of social justice.

Health is an important subject and in the times of COVID-19, this importance has increased. Due to its increased importance, health communication to the public has a significant role to play. Health communication is the study and practice of communicating promotional health information such as in public health campaigns, health education and between doctor and patient. Health communication is defined as, "the study and use of communication strategies to inform and influence individual and community decisions that enhance health."

According to the U.S. Department of Health & Human Services (2020), health communication is defined as "the study and use of communication strategies to inform and influence decisions and actions to improve health". Thus, it is an imperative need to implement health communication properly for getting better solutions to health related problems by the public.

The 'communication' has been identified as one of the complementary approaches to be used in health promotion by the World Health Organization in 1984. Since then, the health promotion and health communication field have developed significantly (Rootman, 1996).

Keeping the data on increase of COVID cases, deaths and global spread of the disease, the Director General of the World Health Organization (WHO) announced this viral disease a pandemic on 11 March 2020. Moreover, this COVID-19 has caused a complementary infodemic due to the situation of crisis. Infodemic also contains invalid information. However, reliable information is significant for designing and also implementing preventive measures against COVID-19. Invalid information spreads quite fast which needs to be regulated (Mheidly& Fares, 2020).

There is need for good health communication efforts in order to lessen the spread of COVID-19. For addressing COVID-19 pandemic issues, health communication plays an important role.

Efforts made by World Health Organisation forHealth Communication:

WHO recognizes that effective, integrated and coordinated communication is integral to carrying out WHO's goal to build a better, healthier future for people all over the world. The purpose of this essay is to describe a strategic approach for effectively communicating WHO information, advice and guidance across a broad range of health issues: from chronic health issues to emerging and novel risks. Looking at the WHO's communications goal, although techniques, audiences and channels for WHO's communication products and activities differ, they all have the same goal: "to provide information, advice and guidance to decision-makers (key audiences) to prompt action that will protect the health of individuals, families, communities and nations." WHO focuses on communicating to and with key audiences as health decision-makers. They are the agents who use WHO communication products to make a range of health decisions and include individuals, healthcare providers, policy makers, communities, international organizations and stakeholders and WHO staff. Furthermore, WHO has formulated six principles for effective communication and they are accessible, actionable, credible and trusted, relevant, timely and understandable. For health threats of all kinds, it is important for WHO to provide the public and media with quick and easy access to up-to-date information by way of statements and notes for the media, situation-specific webpages, transcripts of press briefings, online questions and answers, fact files and fact sheets and maps of affected regions. WHO also organizes health campaigns in the form of global public health days. WHO campaigns provide opportunity to raise awareness and understanding about critical health issues, attention on a health issue of high importance from policy makers to families and communities. Moreover, WHO focuses particular attention on seven days and one week during the year that WHO member states have mandated as official global health observances. They are: World TB Day, 24 March; World Health Day, 7 April; World Immunization Week, last week of April, World Malaria Day, 25 April; World No Tobacco Day, 31 May; World Blood Donor Day, 14 June; World Hepatitis Day, 28 July and World AIDS Day, 1 December (WHO, 2017).

Objectives

1. To understand nature of global COVID-19.
2. To study the health impact of COVID-19 in India.

Review of Literature

It is expected that COVID-19 has been originated from the bats. It is also noteworthy that numerous people consume various animals like bats, snakes, cats, mice, rats, dogs and pigs in their food. It is a matter of fact that these animals have dangerous microbes. Therefore, it is suggested that there is need to consume vegetables and fruits in place of these harmful animals (Ali & Alharbi, 2020).

The whole world is getting affected seriously and unpredictably by the pandemic of COVID-19. Therefore, this is the most appropriate time to respond to this critical situation. The use of NPIs (Non Pharmaceutical Interventions) and to follow all the guidelines issued by the national authorities, is the need of the hour (Bhatia, 2020).

Besides there is a need to develop a robust and receptive health system. This type of system could be able to run in a justifiable manner. For this, there is a need for proper financing for health. The previous and current epidemics reveal that lack of little investment in the preventive medicines which also resulted in saving of millions of lives (Dikid, 2020).

The most neglected segment in India is primary healthcare which is revealed by the availability of hospital beds in the country. Looking at the data, it is found that there are 7 hospital beds per 10000 people in India while in China there are 42 hospital beds per 10000 people, in Vietnam there are 26 hospital beds per 10000 people and in Bangladesh there are 8 hospital beds per 10000 people. Regarding health index, top five states are: Kerala, Andhra Pradesh (undivided), Maharashtra, Gujarat and Punjab while bottom five states are: Uttarakhand, Madhya Pradesh, Odisha, Bihar and Uttar Pradesh (EPW, 2020).

The lockdown due to COVID-19 pandemic had resulted in weight gain by the people due to poor physical activity, increased intake of snacks, oily food and consumption of calorie rich foods. It is noteworthy that weight gain and obesity may increase the severity of COVID-19. Moreover, Human Immunodeficiency Virus (HIV) infection, TB and malaria related deaths over 5 years may increase due to disturbance of antiretroviral therapy, reductions in timely diagnosis and treatment of TB and reduced prevention activities for malaria. Due to COVID-19 pandemic, there had been an increase in chronic stress, anxiety, depression, alcohol dependence, self-harm and heightened physical abuse (domestic violence) resulting in-mental health and other related issues (Gopalan & Mishra, 2020).

The transmission of COVID-19 is occurred very fast and it reached several places from Kerala to Kashmir. Keeping the severity of the transmission, there is need of establishment of war room by the Prime Minister to be run by the task force with best national experts in order to design and also implement immediate, medium and long tern strategies. This will not only help diffuse authentic information on epidemics but also suppress fake news (John, 2020).

For countries like India and United States of America, the number of cases is continuously increasing so it is critical to inhibit the disease from reaching community spread. Therefore, it is essential to initiate extensive testing for COVID-19 cases in line with South Korea in order to controlthe spread of virus (Kumar, 2020).

In the whole world, significant unpaid work was carried out by women and young girls. According to International Labour Organization, 76.2% unpaid care work is carried out by women at the international level. This work is more than the work carried out by men. It is noteworthy that about 50% of certified health workers are women in India. Due to COVID-19 and also extension of health services at home, women are not only overburdened but also have greater risk of infection. It is needless to mention that women are playing not only social roles as wives, mothers, daughters and sisters but also professional roles as nurses, paramedical

staff and primary healthcare workers. Therefore, they are more prone than men to the viruses. There is thus, need to include women and other vulnerable groups in extending COVID-19 healthcare facilities (Misra, 2020).

The coronavirus disease has made a significant impact on the world community and this is the most severe pandemic in the history. Prior to the emergence of this virus, there have been numerous outbreaks of infectious diseases like smallpox, polio, cholera, chickenpox, Zika, ebola and Sars. This was initially known as "2019 novel coronavirus". Later on, it was renamed as "Severe Acute Respiratory Syndrome Coronavirus 2(SARS-CoV-2)" by the International Committee on Taxonomy of Viruses (ICTV) on 11.2.2020. The WHO has declared "COVID-19" on the name of the virus, the cases of the disease. (Nath, 2020).

The disease of COVID-19 can be transmitted by so many material things including mobile phones. To address this issue, there is increased role of government agencies and also World Health Organization not only in generating public awareness but also to formulate Information Education Communication materials on mobile phones hygiene especially healthcare settings (Panigrahi, 2020).

There have been numerous instances of people suffering from several diseases in the era of industrial revolution. But all these diseases have been effectively controlled by good public health measures like adequate ventilation, hand hygiene practices, better drinking water supply and also better standard of living. Moreover, due to development of antibiotics, a good control on these diseases has also been found. (Pardeshi, 2020).

At present, during this time of human crisis, each and everyone in the world has been affected by this pandemic one way of the other. Most fundamentally, there is a need to focus on people-the most vulnerable people. As emphasized by the United Nations Secretary General, during the launch of COVID-19 Global Humanitarian response Plan on 23 March 2020, "We must come to the aid of the ultra-vulnerable millions upon millions of people who are least able to protect themselves. This is a matter of basic human solidarity. It is also crucial for combatting the virus. This is the moment to step up for the vulnerable." Therefore, for addressing this issue, it is essential to identify the marginalized population.

At-risk populations experiencing the highest degree of socio-economic marginalization and requiring specific attention in the United Nations Development System (UNDS) immediate development response:

Women	Older-persons
Adolescents, children and youth, especially girls and young women	Persons with disabilities, persons with mental health conditions
Indigenous persons	Migrants, refugees, stateless and internally displaced persons, conflict-affected populations
Minorities	Persons in detention or in institutionalized settings (e.g. persons in psychiatric care, drug rehabilitation centres, old age homes)
Slum dwellers, people in informal settlements, homeless persons.	People living with HIV/AIDS and other people with pre-existing medical conditions
Small farmers, fishers, pastoralists, rural workers in informal and formal markets and other people living in remote rural areas as well as urban informal sector and self-employed who depend on market for food	The poor persons, particularly in countries affected by prolonged conflict and crisis
People in extreme poverty or facing insecure and informal work and incomes	Groups that are particularly vulnerable and marginalized because laws, policies and practices do not protect them from discriminating and exclusion e.g. Lesbian, Gay, Bisexual, Transgender or Intersex (LGBTI) people

The above table provides at-risk population experiencing the highest degree of socio-economic marginalization due to COVID-19(United Nations Framework, 2020).

Education is not only a fundamental human right but also an enabling right with direct impact on the realization of all other human rights. It is worth noting that education and knowledge being a global common good, it is a main driver of progress across all 17 Sustainable Development Goals. Furthermore, it is a foundation for just, equal and inclusive peaceful societies. However, in case education system collapses, then it is impossible to sustain peacefull, prosperous and productive societies. The pandemic has caused a serious socio-economic impact on the society. In this regard, UNESCO estimates that 23.8 million additional children and youth(from pre-primary to tertiary) may drop out or not have access to school next year due to the pandemic's economic impact alone. The total number of children not returning to their education after the school closures is likely to be even greater. School closures make girls and young women more vulnerable to child marriage, early pregnancy and gender based violence–all of which decrease their likelihood of continuing their education (United Nations Framework, 2020).

The UN's Framework for the Immediate Socio-Economic Response to the COVID-19 Crisis warns that "The COVID-19 pandemic is far more than a health crisis: it is affecting societies and economies at their core. While the impact of the pandemic will vary from country to country, it will most likely increase poverty and inequalities at a global scale, making achievement of SDGs even more urgent. Assessing the impact of the COVID-19 crisis on societies, economies and vulnerable groups is fundamental to inform and tailor the responses of governments and partners to recover from the crisis and ensure that no one is left behind in these efforts. Without urgent socio-economic responses, global suffering will escalate, jeopardizing lives and livelihoods for years to come. Immediate development responses in this crisis must be undertaken with an eye to the future. Development trajectories in the long-term will be affected by the choices countries make now and the support they receive (United Nations, 2020)."

In order to break the chain of transmission and hostile testing, there is a strong need of widespread approach. Moreover, there is need of early diagnosis and isolation along with proper treatment. These are the effective measures in order to prevent the spread of COVID-19 in future (Varghese, 2020).

There are 7 viruses in the family of viruses and corona virus is the 7th one while other 6 viruses are: SARS, MERS, 229 E, NL 63, OC 43, HK 01. The previous 2 viruses: SARS and MERS are serious viruses and can kill human beings. However, last four viruses: 229 E, NL 63, OC 43, HK 01 are less threatening. Under the microscopic observation, COVID-19 virus provides an appearance of crown so it was named coronavirus, derived from Latin; corona meaning "Crown". However, scientists have given a new name to COVID-19 i.e., Severe Acute Respiratory Syndrome Coronavirus 2 or in short SARS-Cov-2. The illness which is caused by COVID-19 is coronavirus disease 2019. It is also worth noting that coronavirus infects humans while other viruses of the family infect cows, pigs, bats and other animals (Venkateswaran, 2020).

Major Efforts Made by Government of India to Address Pandemic

1. Lock Down: To combat the rapid spread of COVID-19, the Central government announced a 21 days lockdown starting from March 25, 2020. This lockdown was further extended till May 3, 2020 and then till May 18, 2020 with certain relaxations. During lockdown, travel and movement were prohibited. Educational institutions were closed. Hospitality services and recreational activities were suspended. Moreover, religious gatherings were also prohibited. Domestic and international travel was banned. Specific guidelines for COVID-19 in workplaces and public spheres were issued which are still applicable. These are: compulsory wearing of face masks, maintain social distancing, limit on marriage gatherings up to 50 guests and in funerals up to 20 persons and permission of limited staff in the offices and work from home as far as possible.

2. Measures taken by Ministry of Health& Family Welfare: The Ministry of Health & Family Welfare released several advisories and notifications addressing to citizens, hospitals, state governments/departments/ministries and employees. COVID-19 testing laboratories opened and social distancing measures issued. The Indian Council of Medical Research provided free of cost diagnosis to all individuals with COVID-19 symptoms. These included

persons with close contacts of those who have tested positive for COVID-19 and then developed respiratory symptoms within 14 days of contacting infected person and persons with a travel history to COVID-19 affected countries who showed symptoms within 14 days of their return. Moreover, social distancing norms were notified to be followed by state governments. Major measures included closure of all educational establishments, gyms, museums, cultural and social centres, swimming pools and theatres, postponing of exams, employers to allow employees to work from home.

3. Pradhan Mantri Garib KalyanYojana for the Poor: This scheme was announced on March 26, 2020 with a relief package of Rs. 1.7 lakh crores rupees. In insurance scheme, healthcare providers and community health workers are covered comprising doctors, nurses, paramedical staff and ASHA workers fighting COVID-2019. This accident insurance scheme covers: loss of life due to COVID-19 and accidental death on account of COVID-19 related duty. This scheme covers all health workers working in government health centres, wellness centres and hospitals of the Centre and the states. There is no age limit for this scheme. In this scheme, Rs. 50 lakhs will be paid to the claimant of the insured person. For taking benefit in this scheme, laboratory report certifying positive medical tests is required for loss of life on account of COVID-19. However, it is not required in the case of accidental loss of life on account of COVID-19 related duty. Moreover, this benefit will be provided to the claimant in addition to any other policy benefits. This scheme was initially announced for 90 days which was further extended till 30.9.2020.

In addition to the insurance scheme, the Central government extended relief package to the poor dealing with COVID-19. So, they are getting 5 Kg. wheat or rice and 1 Kg. pulses. This is above their current entitlement under the National Food Security Act. This scheme was initially announced in March 2020 for three months which was further extended till November 30, 2020. A lump sum amount of Rs. 1000 was also provided to poor senior citizens, widows and disabled persons.

The Central government also provided Rs. 500 per month to 20 crore women enrolled in the J*an Dhan Yojana* scheme. Moreover, free cooking gas for three months was provided to 8.3 crore *Pradhan Mantri Ujjawala* Scheme beneficiaries.

About 81 crore beneficiaries covered under National Food Security Act and *Antyodaya Ann Yojan*a are being provided 5 kgs. of rice or wheat free of cost under the *Pradhan Mantri Gareeb Kalyan Ann Yojana* Scheme.

4. Aarogya Setu App: This app connects the people of India with health services provided by Department of health to COVID-10 patients. This is a digital application for contact tracing, syndrome mapping and self-assessment services. It is developed by National Informatics Services under Ministry of Electronics& Information Technology (MeitY). However, this app is an updated version of an earlier app called *Corona Kavach*. This app is available in 12 languages. There are four sections in the app:

a. Use status intimating risk of getting COVID-19 for the user

b. Self Assessment identifying COVID-19 symptoms and their risk profile

c. COVID-19 updating local and national COVID-19 cases

d. E-pass integrating e-pass facilities

5. Other Measures: The Central government has sanctioned Rs. 15000 crore towards the COVID-19 emergency response and health system preparedness package to utilize Rs. 7774 crore for immediate COVID-19 response and remaining funds for medium-term support in the next four years. This fund will be utilized for developing diagnostics and COVID-19 dedicated treatment facilities, procuring essential medical equipments and drugs, strengthening Central and state health systems to prevent and prepare for future disease outbreaks.

A special economic package of Rs. 20 lakh crore was announced under *Aatma Nirbhar Bharat Abhiyan* package. The aim of the package is to prepare the country for the tough competition in the global market and also to empower the poor, laborers and migrants who were adversely affected by the pandemic. The objective is to maximize the use of local resources and to discard products of foreign countries. The wages under the

Mahatma Gandhi National Rural Employment Guarantee Scheme were also increased from Rs. 182 to Rs. 202 per day.

6. Measures to curb Misinformation on COVID-19 on Social Media Platforms: The role of media is very significant especially in pandemic times.It is equally important that right information should be shared in such crucial times. Keeping in mind the importance of correct information during pandemic, the Ministry of Electronics and Information Technology (MeitY) issued an advisory on March 20, 2020 to all social media platforms to curb misinformation on COVID-19 on their platforms. The advisory urged the platforms to initiate awareness campaign for the users not to upload/circulate any false information that may create panic among the public, take immediate action to disable/remove such content on priority basis and also promote the dissemination of authentic information as far as possible.

During pandemic, it is essential to prevent rumours as they do any damage irreparable to the society as a whole. There was one rumor that poultry products have vector for COVID-19. Therefore, several poultry farmers made their mature broilers dead because there was no demand. Moreover, the prices of broilers also decreased significantly. Resultantly, on the one hand there was a big loss to the poultry farmers and on the other hand the broilers were made dead which is also against the principle of right of natural life.

7. Introduction of Year of Awareness on Science & Health (YASH): Recognizing the importance of communication especially during COVID-19, National Council for Science & Technology Communication (NCSTC) has launched a programme on health and risk communication "Year of Awareness on Science & Health (YASH)" with focus on COVID-19 on May 2, 2020. The objective of this initiative is not only to spread information among the masses but also to bring attitudinal changes among the masses in order to prepare informed public response in future.

8. Testing of COVID-19 Cases: According to Indian Council of Medical Research, there are a total operational (initiated independent testing) laboratories as on 19.9.2020 government laboratories are 1061 while private laboratories are 712 thus comprising a total of 1773 laboratories in India. These laboratories in consultation with Indian Council of Medical Research are engaged in extensive testing, case identification, isolation, treatment of cases, meticulous contact tracing, home quarantine of contacts and localized restrictions on movement in some cases.

Regarding the level of transmission of COVID-19, it is in community transmission stage in United States of America and Brazil while in India it is cluster of cases. It is noteworthy that the cluster of cases stage is better than community transmission stage, which is the highest stage. Furthermore, WHO has described four levels of COVID-19 transmission. These are countries or local areas with: (i). No cases reported, (ii). Sporadic cases, (iii). Cluster of cases (grouped in place and time), and (iv). Community transmission.

TABLE 1: Definition of the categories for transmission pattern:

Category number	Category name	Definition
(i)	No cases	Countries/territories/areas with no cases
(ii)	Sporadic cases	Countries/territories/areas with one or more cases, imported or locally detected
(iii)	Cluster of cases	Countries/territories/areas experiencing cases, clustered in time, geographic and/or by common exposures
(iv)	Community transmission	Countries/areas/territories experiencing larger outbreaks of local transmission defined through an assessment of factors including, but not limited to: - Large number of cases not linkable to transmission chains - Large number of cases from sentinel lab surveillance - Multiple unrelated clusters in several areas of the country/territory/area

Source: WHO, 2020

TABLE 2: Data on COVID Cases in India				
Sl. No.	**Date**	**Confirmed Cases**	**Cured/Discharged**	**Deaths**
1.	31.3.2020	1397	124	35
2.	30.4.2020	33610	8373	1075
3.	31.5.2020	190535	91819	5394
4.	30.6.2020	566840	334822	16893
5.	31.7.2020	1638870	1057805	35747
6.	31.8.2020	3621245	2774801	64469
7.	30.9.2020	6225763	5187825	97497
8.	1.11.2020	8184082	7491513	122111

Source: Monthly Policy Reviews, March-October 2020, PRS Legislative Research (www.prsindia.org)

It is also pertinent to mention that the data has been taken at the end of every month. The above data reveals status of confirmed cases as the confirmed cases have increased 24.06 times from March to April, 5.67 times from April to May, 2.97 times from May to June, 2.89 times, from June to July, 2.21 times from July to August, 1.72 times from August to September and 1.31 times, from September to October. It is noteworthy that the ratio of increasing confirmed cases is continuously decreasing.

The cured/discharged cases have increased 67.52 times from March to April, 10.97 times from April to May, 3.65 times from May to June, 3.16 times from June to July, 2.62 times from July to August, 1.87 times from August to September and 1.44 times from September to October.

The number of deaths has increased 30.71 times from March to April, 5.02 times from April to May, 3.13 times from May to June, 2.12 times from June to July, 1.80 times from July to August, 1.51 times from August to September and 1.25 times from September to October.

Part II: Health Impact of COVID-19 in India

WHO and India

WHO also appreciated PM Modi's efforts to contain coronavirus and said, "India can do it". Thus PM Narendra Modi has made an all-out effort to instill the spirit of nationality and humanity in the minds of the people of this country. The former Union Minister of Health & Family Welfare Dr. Harsh Vardhan was elected as Chair of the Executive Board of WHO for the year 2020-21. He has been provided this opportunity due to his ability, leadership role and long association with WHO. He had replaced Dr. Hiroki Nakatani of Japan. He underlined the need for higher commitments in respect of diseases that have plagued humankind for centuries and emphasized need for reforms. Due to his efforts, WHO has recently decided to open World Research Centre in India. As a result, Indian Ayurvedic Medicines will not only get global recognition but also a global market.

COVID-19 and India

Earlier India had maintained a good position in the prevention of spread of COVID-19. This could become possible due to timely decisions taken by the Central and state governments and also by the effrots of all the stakeholders in unison. The people of the country also showed unity, truthfulness, self-respect and self-confidence during Janta Curfew. Lockdown and also following government directives by way of use of mask, maintaining social distance and avoiding going to crowded places. India also made use of plasma therapies for the treatment of COVID-19.

According to the Ministry of Health& Family Welfare, the rate of recovery of patients from coronavirus is continuously increasing. India maintained first position in the world in recovering patients from corona virus. As on 3.10.2020, In India, more than 54 lakh patients got recovered. While in America, more than 47 lakhs and in Brazil, more than 42 lakhs patients got recovered. The last 10 lakh patients got recovered in last 12 days.

Despite all these best efforts, the situation is alarming. According to a recent announcement by WHO, about 10% of the global population may have been infected by this virus.

According to the third nationwide Serological Survey Report, the economically weak persons and people living in crowded places are more infected due to corona virus. The reasons for it are that people with poor economic backgrounds have to go outside due to their job demands and they are did not abide the norms of social distancing.

The effects of COVID-19 may linger long after recovery. Reinfection may also occur within a few months. Numerous patients have residual symptoms post recovery ranging from fatigue, headache, exhaustion and weakness to breathlessness that requires oxygenation at home even after testing negative for COVID-19. In some people, the symptoms can persist for weeks.

Online Medical Consultation

Online medical consultation has emerged as a new practice. Even the private doctors are consulting online and the practice of telemedicine has also increased. Doctors attended their patients through online mode by making use of apps like Aayu, Mfine, Practo, Docsapp etc. Even the Government of India has launched e-sanjivini app through which people are taking advice from the experts from their homes.

Emergence of new opportunities in the field of technology

Due to Covid-19, demands especially in the sale of sanitizers, masks, gloves, PPE kits and electronic gadgets like cameras, microphones, sound cards, pendrives and laptops increased exponentially. New opportunities in the field of technology emerged due to change in the needs of the people during lockdown. To provide opportunity to the new talents, the Central government organized *Atmanirbhar Bharat* Innovation Challenge. Numerous entrepreneurs participated in this event and got recognition. Moreover, several organizations prepared new masks, bottles, sanitizers, clothes and devices in order to prevent the spread of corona virus.

Inclination of People towards Ayurveda& Yoga

The corona virus forced people to return towards Ayurveda and yoga. People started doing yoga. People are using 'kada' in morning and evening. People got an opportunity to lead a natural life, making use of natural products like '*Giloy*'.

Change in food habits:

Due to this pandemic people realised the harmful effects consuming fast food. Due to non-availability of fast and packaged foods like chowmein, pasta, noodles, burgers, pizza, juices, momos and cold drinks during lock down, people taking green vegetables, lemons, gingers, garlic, onion '*Laung*', 'Black Pepper', '*Dalchini*' and hot water etc.

Change in the celebration of social institutions

The corona virus also affected the celebration of auspicious functions like marriage, birthday and also the cremation of dead bodies. The marriage which is the most important social institution got affected in the form of restriction of participants to 100 in it from both the sides. Therefore, all family members, friends, relatives and neighbours' did not get an opportunity to participate in the marriage ceremonies. In addition, the number of participants in the cremation was limited to 20 only.

COVID-19 and Mental Health

According to media reports, a total of 125 suicide deaths occurred due to fear of infection, joblessness, loss in business, inability for social interaction and loneliness, lack of freedom of movement and inability to go home during lockdown. This is a reflection of the inability of the country to manage mental health of the people in lockdown phase and also post lockdown phase. Furthermore, there is a need to quash fake news in order to communicate scientific information in the society. There was one fake news that applicants appearing in

the Union Public Service Commission Preliminary examination this year will have to get tested for COVID-19. Incentives to the persons who have lost their jobs may be provided by the Central government. According to a study conducted by AIIMS New Delhi, the number of persons with mental illness has increased two times. Before COVID-19, the percentage of depressed patients was 3.5% to 5% while it has become 10% now. So there is need to make the patients aware towards their mental health.

COVID-19 and Older Persons

The older persons and also persons with underlying medical problems like cardiovascular disease, diabetes, chronic respiratory disease and also cancer are more likely to develop serious illnesses due to COVID-19. The primary source of spread of this virus is droplets of saliva or discharge from the nose when an infected person sneezes. Therefore, it is safe to adopt respiratory etiquette by coughing into a flexed elbow. Protection from infection may be taken by washing hands or using an alcohol based rub frequently and not touching face.

EPILOGUE

Theoretical Framework

Some of the significant challenges for addressing the issue of COVID-19 pandemic are: low level of awareness, issue of infodemic, health infrastructure, management of pandemic and non-implementation of COVID-19 protocols. There is little attention on post COVID-19 treatment. At the beginning of the pandemic, people were more serious towards safety from COVID-19 but now people are becoming lethargic towards safety issues. One more issue of increasing number of COVID-19 cases is festive season. Keeping the gravity of this issue, the Delhi Government recently had to increase the penalty of Rs. 2000/- from Rs. 500/- for not using the mask. It is evident that self-management to address COVID-19 pandemic is not sufficient. Human behavior plays an important role in addressing health issues. To address this issue, KAP (Knowledge, Attitude and Practice) is a suitable theory. This theory was developed by western scholars in the late 1960s. This theory propounds that change of human behavior is divided into three successive processes: acquisition of knowledge, generation of attitude and formation of behavior. The theory explains that there is a strong relationship among knowledge, attitude and practice. In it, knowledge is the foundation of behavior change while attitude is the driving force behind behavior change.

Executive Summary

The COVID-19 pandemic has created problems for all the countries. Therefore, the health systems of even various developed countries have been overloaded. However, the health system of India is not as good as of developed countries. Consequently, the healthcare workers had a tough time handling the pandemic. Furthermore, the rural cities faced more difficulties than urban areas due to lack of healthcare infrastructure such as doctors, paramedical staff, hospitals, sufficient beds and ventilators. According to the data on national Health Profile-2019, there were only 0.53% hospital beds per 1000 population in India. Merely 28% of our populations in urban areas is being served by the 74% of the doctors, whereas 72% of our population in rural areas is being served by 26% of the doctors. The doctor to people ratio in India is very less.

Since focus is on prevention, it is imperative to make people especially in rural areas aware by way of print, electronic and social media. The concept of making awareness needs interdisciplinary approach. Only the information provided by WHO, ICMR, Vigyan Prasar, DST and NISCAIR needs to be believed. Moreover, the concept of social distancing is not so popular in rural areas so there is need to focus on it.

The struggle against COVID-19 is multi-sectorial, multi-ministerial, multinational and extraordinary in nature. Thus, COVID-19 will most likely remain a long-term threat to the whole humanity. Thus, there is a need to work in unison by all the stakeholders.There is a need to strengthen R&D efforts and social engineering research on pathogens in order to address future challenges.

There is a huge difference of doctors' patients' ratio in India. Though public health and hospitals are the state subjects so it is the responsibility of states and Union Territories to provide doctors and health facilities. Public Health Services are the lifeline of societies so there is an urgent need to upgrade these services. There is a need for better coordination between districts, states and Central government for addressing the challenge of global COVID-19 pandemic.

Prevention from COVID-19

To prevent infection and also to slow down the transmission of COVID-19, the following practices may be helpful: wash your hands regularly with soap and water for 20 seconds multiple times or clean them with alcohol-based hand rub, maintain at least 1 meter distance avoid touching your face, cover your mouth and nose when coughing or sneezing, stay home in case you feel unwell, refrain from smoking and other activities that weaken the lungs, practice physical distancing by avoiding unnecessary travel and staying away from large groups of people.

Suggestions

1. There was no earlier preparation for this type of pandemic which caused too much loss to the country. Healthcare sector and the general public at large should be fully prepared for a pandemic of such magnitude.
2. The concept of social distancing is not so popular in rural areas so there is a need to popularize it by making use of folk songs, mobile theatre, puppet shows and street plays.
3. Health cannot be attained by health sector alone. Thus, there is a need to work in unison by all the stakeholders. There is a need of better coordination between districts, states and central government for addressing the challenge of global COVID-19.
4. The struggle against COVID-19 is multi-sectorial, multinational and extraordinary in nature. Thus, COVID-19 will most likely remain a threat to the whole humanity.
5. Public Health Services are the lifeline of any society so there is an urgent need to upgrade these services and meanwhile all the services provided may be communicated to the public regularly. There is a huge difference of doctors' patients' ratio in India. Though public health and hospitals are the state subjects so it is the responsibility of states and Union Territories to provide doctors and health facilities. There is also need to promote indigenous and traditional knowledge of medicine instead of depending completely on Allopathy. ■

References

1. Ali, Imran& Omar M.L. Alharbi (2020), "COVID-19: Disease, Management, Treatment and Social Impact," *Science of the Total Environment*, No. 728, Page5.
2. Bhatia, Rajesh (2020), "Public Engagement is the Key for Containing COVID-19 Pandemic", *Indian Journal of Medical Research*, 151, February& March 2020, page 119.
3. COVID-19 Special, Fact- checking, *Vigyan Prasar*, Dream 2047, May 2020, Vol. 22, No. 8, Page 22.
4. Dikid, Tanzin, Sushma Chaudhary, Kapil Goel, Preeti Padda, Rajesh Sahu, Tripurari Kumar, S. K. Jain, S. K. Singh& Jai Prakash Narain(2020), " Responding to COVID-19 Pandemic : Why a Strong Health System is Required,", Indian Journal of Medical Research, 151, February & March 2020, page 144.
5. Editorial, *Economic & Political Weekly*, Vol. 55, Issue No. 14, 04 April 2020.
6. Global Surveillance for COVID-2019 caused by Human Infection with COVID-2019 Virus Interim Guidance 20 March 2020, WHO, WHO reference number: WHO/2019-nCOV/Surveillance Guidance/2020.6.

7. Gopalan, Hema S. & Anoop Mishra (2020), "COVID-19 Pandemic and Challenges for Socio-Economic Issues, Health-Care and National Health Programs in India", *Diabetes& Metabolic Syndrome: Clinical Research Reviews*, Vol. No. 14, Page 757-759.
8. John, T. Jacob (2020), "How Prepared is India to Control the COVID-19 Pandemic", *Economic & Political Weekly*, March 14, 2020, Vol. XV, No. II, Page 13-15.
9. Kumar, Arun (2020), "Impact of COVID-10 and What Needs to be Done", *Economic & Political Weekly*, Vol. 55, Issue No. 14, 04 April 2020.
10. Misra, Kinkini Dasgupta (2020), "Gender Sensitivity and COVID-19", *Vigyan Prasar, Dream 2047*, May 2020, Vol. 22, No. 8, Page 10.
11. Monthly Policy Reviews, March-October 2020, *PRS Legislative Research* (www.prsindia.org).
12. Narwadiya, Sachin C. (2020), "Technologies for the Diagnosis of COVID-19", *Dream 2047*, May 2020, Page 27.
13. Nath, Rintu (2020), "Epidemiological Model and Its Impact on Public Health Policy: A COVID-19 Perspective", *Vigyan Prasar*, *Dream 2047*, May 2020, Vol. 22, No. 8, Page 11.
14. Panigrahi, S.K., Vineet Kumar Pathak, M. Mohan Kumar, Utsav Raj& Karpaga Priya P.(2020), "COVID-19 and Mobile Phone Hygiene in Healthcare Settings, *BMJ Global Health*, 2020, 5, Page 1-3.
15. Pardeshi, Peehu (2020), "Vaccines to the Rescue", *Economic & Political Weekly*, Vol. 55, Issue No. 14, 04 April 2020.
16. Types of COVID-19 Tests (2020), COVID-19 Special Issue, *Invention Intelligence*, March-June 2020, Page 9.
17. United Nations (2020): A UN Framework for the immediate Socio-Economic response to COVID-19, April 2020, Page 7.
18. United Nations (2020), Policy Brief, Education during COVID-19 and beyond, August 2020, Page 3, 10 &21.
19. United Nations (2020): COVID-19: *Socio Economic Impact*, Page 1.
20. Varghese, George M. & Rebecca John), "COVID-19 in India: Moving from Containment to Mitigation", Indian Journal of Medical Research, 151, February& March 2020, page 138.
21. Venkateswaran, T.V. (2020), "A Killer and His Devious Ways", *Vigyan Prasar, Dream 2047*, May 2020, Vol. 22, No. 8, Page 3.
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