Challenges for Communities in Mitigating Spread of Corona Virus Disaster – Special Reference to India

Dr. Bhupinder P S Chahal¹, Dr. Parveen K. Bangotra²

¹Associate Professor for Management, USB-MBA, Chandigarh University, Mohali, Punjab.
²Research Scholar, Chandigarh University, Mohali, Punjab
E Mail: bpchahal@gmail.com, pbangotra@yahoo.co.in

Abstract:

By their very intrinsic nature, humans are genetically programmed to live together in communities, socialize with each other, hold hands as expression of love and care and snuggle together as expression of affection and comfort. Be it the marriage, birth, death, festival, celebrations or just the outings, humans like to come together. In our schools, colleges, offices, sports or so many daily life activities, we work in teams. Togetherness gives us comfort and confidence. This is where from our social behaviour emerges and this is what makes human social.

Strangely, it seems as if Coronavirus (Coronavirus Disease, COVID-19) is programmed to work against this very human social behaviour. It just does not want humans to touch, hug, embrace, hold hands, be together or even come closer. It just does not want us to even shake hands. It wants us human beings to maintain a distance of at least 2 metres. Come closure and you are likely to catch virus infection.

Corona virus is in direct contravention to human behavior and likely to have far reaching impact on human social behavior especially in a country like India which is densely populated with diverse religion and cultures and multitude of festivals celebrated in large gatherings.

Not only that this virus is against the very human behaviour, spread of COVID-19 is contact based. If one infected person comes in contact with 50 persons on day 1 and those 50 persons contact another 50 each, there would be 2551 infected persons. This makes COVID-19 a highly cumulative and the spread is highly exponential. With such fast spread rate, apart from Governments, communities have a very important and responsible role to play in mitigating the spread of COVID-19. While the governments and health authorities have vested powers to initiate actions and take measures, community’s behaviour to mitigate the threat comes out of their volunteerism, education, value system, financial conditions, living conditions, nationalism and humanitarian approach.
This paper studies the impact of COVID-19 on human social behavior and measures to be initiated by communities and governments to mitigate the threat. Further it studies the challenges faced by communities especially in a country like India with large population, densely populated urban slums, poor living conditions, lack of primary health, education and basic hygiene. In the concluding remarks, paper identifies areas in which further research is suggestive.

Key Words: COVID-19, Corona, Virus, Communities, Hygiene, Global Hygiene Council, Quarantine, Social Distance, Social Behaviour, Symptomatic and Asymptomatic, World Health Organization, Flu.

1. INTRODUCTION:

Virus attacks are not new phenomena. Viruses have attacked humanity, plants and livestock throughout the human history with varying degree of impact ranging from a localized minor to wiping out large human population spread all over the globe. Ebolas, SARS, H1N1, MERS, Zika of the world has time and again reminded the humanity about the lurking dangers of the virus.

Spanish Flu of 1918, which started in the Northern Hemisphere and even in a much less connected world, reached extremely remote places like Alaskan wilderness and Samoa in the middle of Pacific Islands is estimated to have killed around 40 million people[1]. Other researchers like Johnson and Mueller[2], estimate it to be around 50 million which is about 2.7% population of that time.

Each virus has its signature and stamp it leaves behind on the society. Lessons learnt by governments, health organizations and societies play a key role during such re-occurrences or similar occurrences. It is therefore important for humanity to remain prepared, setup systems and knowledge repositories to face the challenge when it strikes.

2. CORONAVIRUS OR COVID-19

Coronavirus, named as COVID-19 (Corona Virus Disease-19) by World Health Organization (WHO) seems to have originated in wet animal market in Wuhan, China in early December 2019. Coronavirus are normally viruses of the animals. However, for reasons unknown, sometimes these viruses can cross over to humans. In 2002, coronavirus jumped to humans causing SARS (Severe Acute Respiratory Syndrome) outbreak [3], and decade later in 2012 another outbreak MERS (Middle East Respiratory Syndrome) happened because of coronavirus.

Although Covid-19 originated in China, soon the whole world got engulfed by the severity and spread of this virus. While China took some aggressive measures and controlled the spread of virus, reluctance by certain European nations to take aggressive measures resulted in Europe becoming the new epicenter of Covid-19 with more and more new cases reported each day.
Ever since the devastating Spanish Flu of 1918, researchers have studied the spread and surge behaviour of virus attacks and established mathematical models. As per Jason Schroer [4], figure 01 is a typical depiction of spread of corona like virus.

Typically, before a nation understands the gravity of the virus attack and gears up its systems, the exponential growth of the virus results in upsurge that goes beyond the capacity of the healthcare system of that nation. This results in collapse of the health care systems leading to cumulative growth of infected patients. With overloaded care systems, the health care workers themselves could get infection, thereby further reducing the health care capacity. If and only if the upsurge could be flattened such that the number of patients remain well within the health care capacity. It is not possible to stop the pandemic, but flattening the curve can be helpful. This is possible by way of social distancing. Maintaining a distance of at least 2 meters slows down the spread. Mitigating the spread of Covid-19 is nothing but steps taken by government and communities to flatten this curve.

![Flattening the Curve - Slow Down the Community Spread by Social Distancing](https://stacks.cdc.gov/view/cdc/11425)

In the long run, for COVID-19 or such like viruses certain measures by the communities are highly desirable along with timely recognition and intervention by the governments. In many ways India is a complex mix of diversities in terms of religion, culture, economic conditions, values and beliefs and therefore poses challenges to mitigate threats like COVID-19.
Vaccine for COVID-19 may not be yet available, however, measures to combat the spread of corona are well established. These measures and their challenges in implementation among Indian communities is given below:

3. WASHING HANDS

World over, health agencies [5] emphasize that washing hands with soap could help prevent millions of cases of cold, flu, and gastrointestinal disease that spread around the world each year. In case of COVID-19, it is important to wash hands with soap for at least 20 seconds. Why? The new COVID-19 virus is a spherical structure with spiky proteins attached to a membrane that protects the pathogen’s genetic material. Once it comes into contact with soap, this membrane dissolves, leaving behind a dysfunctional virus. Washing hands with plain water does not dissolve this membrane, thereby leaving virus as it is.

According to many a research studies, people wash their hands for six seconds which is not sufficient. To break down the membrane of coronavirus, 20 seconds thorough hand wash is recommended very frequently. However, hands should be washed thoroughly every time:

- Before start eating food
- Before and after touching raw food especially meat and vegetables
- After using the toilet
- After blowing your nose, sneezing or coughing
- Before and after treating a wound
- After touching pet animals
- Before touching one's eyes, nose, and mouth.

Washing hands with soap and water is preferred, hand sanitizer with 60% alcohol can be used in the absence of water and soap especially during travelling.

3.1 Challenges in India

According to study conducted by UNICEF [6], almost a third of Indians believe that washing hands is not a priority. It is estimated that only 15% of Indians wash their hands after defecation and doing so could reduce the risk of getting diarrhoea by 40%.

India is a country of world’s second largest population with extreme poverty at one end of population spectrum. Large scale slums, migratory population, homeless population just about able to meet their basic requirements of daily food cannot afford to waste their earnings on sanitizers or even hand wash soaps.

Even clean water is a challenge. With large scale industry, scant regards for pollution control, most of the rivers in India are either polluted or have even dried up and disappeared. This has put up a huge challenge for supply of clean water to villages. This is yet another challenge for washing hands as the water is rationed.
Challenge is to create awareness among masses about washing hands and to provide alternative means for effective hand hygiene. May be using boiled water that can be re-cycled can be one way. However, this requires further research and studies.

Mid-Day Meal for school children is one of India’s Flagship programme. Washing hands before and after Mid-Day Meals should be incorporated as an essential activity. This could bring awareness among the young children who may further take it to their parents.

4. SNEEZING, COUGHING AND SPITTING

People can catch COVID-19 from others who have the virus when an infected person sneezes or coughs, sending tiny droplets into the air. A study at MIT [7] found that sneeze droplets can travel up to two meters. Depending on the ventilation of a particular space, they can spread across the room within a few seconds and stay there for close to ten minutes. Moreover, the study discovered that flu virus can survive on some surfaces for up to 24 hours and touching those surfaces can spread the infection. So covering your mouth while sneezing/coughing is essential to stop the nasty spread of infections.

These tiny droplets which are not even visible to naked eye, can land in the nose, mouth, or eyes of someone nearby, or be breathed in. These may land on surfaces where they can be transmitted if someone touches this surface. People also can get infected if they touch an infected droplet on a surface and then touch their own nose, mouth, or eyes.

One can minimize the spread by sneezing into the bend of your arm or covering your face and nose with a handkerchief or tissue paper.

4.1 Challenges in India

Cough and sneeze etiquette is perhaps last thing on the minds of Indian. It is more so because of ignorance about the health hazards of a sneeze or cough. Yet another bigger problem with Indians is the habit of spitting here and there. In major parts of India, people chew tobacco, betel nut and paan. Due to this habit, they develop this habit of spitting here and there. Spitting in the open is an offence under the Indian Penal Code but its implementation has hardly been done.

Sneezing often comes unannounced and you may not be ready with tissue or handkerchief. In such cases, the perfect cough/sneeze etiquette is to sneeze in the crook of your elbows. This is an effective way to prevent the outspread of virus to people around you.

For India, the challenge is bring around the awareness among masses about the health hazards of sneezing, coughing and spitting in the open. Regular and consistent Campaigns by NGOs and Communities at the target groups are required just like the campaign against smoking and tobacco.
5. USE OF FACE MASKS

Face Mask is useful in blocking respiratory droplets from persons coughing, sneezing or even talking. These should be worn by symptomatic individuals. That is the individuals having COVID 19 or suspected to have COVID-19. These should also be worn by individuals providing direct care to symptomatic individuals.

Despite the fact that WHO [8], specifically does not recommend use of face masks and says that there is no evidence on the usefulness of face masks by healthy persons against protection from COVID-19, there is human tendency to put face mask or any other cloth as it gives internal feeling of safety against virus floating in the air. Moreover, when there is not much that you can do to safeguard, least is to put a facemask. Some experts are of the opinion that with a face mask, you have more tendency to touch your face which is not recommended.

5.1 Challenges in India

India is a country of 1.3 billion people, world’s second largest population with some of world’s richest persons with overflowing wealth at one end of spectrum while extreme poverty at the other end. According Asian Development Bank estimates [9], India has 21.9% population below the national poverty line in the year 2011. According to the United Nations Millennium Development Goals (MDG) programme, 270 million people out of 1.2 billion Indians, roughly equal to 21.9% of India's population, lived below the poverty line of $1.25 in 2011–2012 [10]. About 270 million people below poverty line. It is this disparity that is the root cause of many a problems. During COVID-19 kind of crisis, rich people buy the face masks in bulk. This creates shortage of face masks and demands cannot be met. Therefore the prices start spiralling. Rich could afford to stock whether they needed it or not, while poor could not afford the high price. This triggers a panic reaction. Most of the poor start using a towel or any other regular cloth to cover their face.

In the recent COVID-19 crisis, some unscrupulous persons started recycling the used face masks and selling them in the market as new.

Challenge in India is to apprise the people and bring this awareness whether they really need Face Masks or not.

6. SOCIAL DISTANCING

At the community level, social distancing is perhaps the most important and most challenging measure to slow down the spread of corona virus. Since COVID-19 spreads from person to person by touch, coughing, sneezing or even touching the surface where infected person has touched, it is important that people remain indoors and do not socialise or meet other people. This way the rate of spread of virus can be slowed down such that the number of patients remain well within the health care capacity of the concerned nation. (Refer figure 01). Moreover with time as doctors and nursing staff attending to virus patients starts getting
infected themselves, the health care capacity starts falling down. It becomes all the more important that the rate of spread of virus is further slowed down.

It is a huge challenging task as you make people to confine to their homes. Apart from social behaviour challenges, there are day to day daily needs to be met. This is aptly called social distancing. There are huge costs involved and business losses associated with this. It is therefore not easy to implement and government interventions are required. Communities and individuals need to plan exigencies and maintaining a supply of essential goods which is likely to run into short supply as more and more people start stocking them. Social distancing measures include:

6.1 Quarantine

If a person is suspected to have COVID-19 or is known to have COVID-19, he is called symptomatic individual and is required to be quarantined in his home or any other place/hospital being maintained by authorities. They are required to be quarantined unless health authorities certify them to be clear and not contagious. Quarantine measures include:

- Not to leave the quarantined area, be it home/hospital or any other place.
- At least two meter distance be maintained while providing food/medicines.
- If leaving the home setting is essential for medical reasons or otherwise, wear a face mask, maintain distance of two meters and inform in advance to the doctor or persons the infected person is likely to meet about the infected condition of the person.

6.2 Self-Isolation

If a person has come in contact with a symptomatic person, he or she becomes a high risk and is recommended Self-Isolation. Self-Isolation is self-imposed discipline to remain confined to a room with no contact with anyone.

Self-isolating measures include:

- To maintain at least 2 metres away from other people,
- Even food and medicines to be delivered at door step without touching,
- No visitors or friends or family friends to be allowed,
- Frequently wash hands with soap for at least 20 seconds
- Use proper face mask to cover your mouth and nose
- Use tissue or mid sleeve when coughing or sneezing
- Regularly clean surfaces touched in routine
- Self-isolate for 14 days is recommended.
6.3 Separation of Senior Citizens

When the virus is in circulation, Senior Citizens are more prone to get infected. Grandparents living in a family are prone to get infected and their fatality rate is also higher as their immunity levels are low. Grandchildren have better immunity compared to grandparents and therefore grandparents should be kept separated in more protective conditions. Old Age Homes, Senior Citizen Clubs and all such places like Parks, Gardens etc. where senior citizens come together should be put under frequent sanitization against virus. In Indian Homes where grandchildren spend long time with their grandparents, there is emotional trauma for both that needs to be handled with care.

6.4 No Mass Gathering or Crowding

To maintain a distance of 2 meters is highly recommended to mitigate spread of COVID-19. Voluntary avoidance of crowded places is highly recommended. However this has cultural, social and religious implications when it comes to funerals, religious gathering, weddings, airports, railway stations & bus stops, public transportation, shopping malls, theaters etc. and may be seen as restrictions on personal freedom.

It is therefore that the authorities have to consider various factors before it is moves from volunteerism to imposition.

6.5 Closure of Schools

Closure of schools could be Proactive or Reactive. Health authorities have a key role to play in deciding whether to go for proactive school closure or wait and watch. Since school children are highly interactive among themselves, there is a possibility of infection from school that can travel to home by school children. However, closure of schools is a big decision and can lead to panic among parents because of virus as well as making additional arrangements for children to stay home. Authorities should keep following considerations in mind:

- Timing of schools closure has to be judged based on correct data interpolation. Virus has a peak period. Schools should be closed well in advance to avoid this peak period but not so much in advance that there is a study loss.
- Apart from timing of school closure, period of school closure is important. Closure of 3-4 weeks well timed can be useful in virus transmission in communities.
- If there are holidays in near future, the same can be adjusted.

Reactive school closures are in response to absenteeism of staff or students because of virus such that it is not possible to run school safely.

Apart from loss of studies there are consequences in terms of mid-day meals, daily wage staff and moreover for working parents it becomes added burden to either stay at home or make
some alternative arrangements. Alternative arrangements can as well defeat the very purpose of school closures.

6.7 Closure of Work Places

Closure of work place is a major decision by authorities. Before closure of work place, there are a series of strategies to be adopted and actions that should be taken. It is easy for Knowledge based organizations that have a policy of ‘Work From Home’. For organizations where ‘Work From Home’ is not feasible, closure of work place is a difficult decision as it leads to financial implications.

Closure of work place should be the last option. It is always advisable that before going in for closure of work place, public health measures should be implemented in workplaces. These are:

- Employees should be made aware about virus thru email/posters etc.
- Hand sanitisers be installed at entrance to various buildings.
- Advisory regarding hand wash and respiratory etiquette be released
- Self-isolation be encouraged to those who are prone
- Canteens should be sanitized more frequently.
- Desk to desk working space should be increased to minimum 2 meters.
- Touching surfaces like phones, keyboards, table tops, etc. should be sanitised more frequently.
- Handwashing facilities and hand sanitizing dispensers should be increased.
- Use of email, video conferences and work from home should be increased to reduce person to person contact.
- Business Continuity Plan be tested and kept ready for implementation.

6.8 Challenges in India

For us Indians, as part of our culture, it is difficult to understand isolation, quarantine or social distancing. This is not the way we live. Because of population density in India, the social distance is perhaps the most challenging measure for mitigation of COVID-19. With urban slums, where large number of people share single rooms, social distancing is a huge task. In fact maintaining a distance of 2 meter is just not feasible. In Mumbai, the financial hub of India, there is a cramped living of 1,20,000 people sharing one square kilometre of living space which is perhaps highest in the world. Mumbai local trains carry up to 7.5 million passengers every day that is almost the whole population of Hong Kong [11]. As it is, slums are prone to disease because of depleting sanitation and lack of hygiene.

Then there are daily wagers. In a country of about 270 million below the poverty line, so many live a hand-to-mouth existence. For these people their first priority is to earn their daily bread and everything else including social distancing has no meaning.
In a country that employs millions in the informal sector as maids, cleaners and workers where job requirement is dependent on each other, social distancing is very challenging to implement.

Apart from physical distancing, there are psychological challenges. Persons with disabilities, children with autism, senior citizens who need constant care are some challenging situations.

Large population in India is religious and visiting temples/religious places is part of daily routine. This is their religious faith and social distancing is against their religious belief.

7. CONCLUSION

Preparation during normal times comes handy when the disasters strikes, be it earthquake, tsunami, floods or fires. Corona like virus disaster is no different. It strikes without any warning and unless the nations have health care systems, knowledge based repositories, economic backups, social awareness and trainings, trustworthy governments, the speed at which these viruses strike, it is difficult for nations to sustain. More often, the virus strikes in such large geographical areas that nations cannot spare their manpower or resources for other countries. Each country is of its own.

For India, an emerging economy with world’s second largest population of 1.3 billion people, with some extremely poor population, religious and cultural diversity, cities expanding at their seams because of urbanization and poorly organised health care system, challenges of fighting corona like virus are huge and multi-fold. For such a demographic setup, governments and public health agencies have a very critical role to play, but it is the communities that will finally make the difference.

There are measures to be taken during normal times and there are measures to be taken when the virus has already struck the community.

During normal times, long term measures and communities commitment is highly desirable. This is to develop knowledge based models that create awareness about basic personal hygiene and to inculcate habits like washing hands with soap, sneezing and coughing etiquette, to refrain from spitting in public.

Once the virus has struck, maintaining social distance is the bottom line. For India, this is a huge challenge because of poverty, population density, urbanization and migratory labour. Community support in creating awareness and financial hand holding during the crisis is the key. However, once the virus has struck, the trust levels are very low. Rich people might look at their support staff like drivers, maids, helpers as potential carriers of virus. This makes community support and hand holding even more difficult.
8. REFERENCE


