**The ethical concerns of a pandemic: A critical analysis of the Indian situation in COVID era**

**Abstract**

COVID 19 brings havoc in the world with its high infectivity and virulence. Many countries caught unprepared in public health capacity and socio-economic parameters. In this trying time, public health ethics remain an unanswered question in many fronts of treatment and control of novel coronavirus. The objective of the paper is to analyse the significant ethical challenges faced during the COVID 19 pandemic. The predefined thematic areas based on critical issues are identified to understand the ethical concerns of prevention and control of COVID 19. Secondary sources of literature have been consulted, and pieces of evidence gathered to strengthen the arguments. The article also provides a recommendation on ethical measures for the preservation of human dignity and ethical practices. The lockdown and economic concerns are many in the Indian scenario with operational and ethical challenges. The human rights aspects of regulations during the pandemic of the coronavirus are discussed to understand various nuances of justice and liberty. The gaps in public health preparedness and the ethics of public health are analysed based on evidence. At a difficult time, international law and public health ethics during epidemics play an essential role. Hence, the principles governing international laws are critically analysed with examples of the COVID era. The uncertain time needs cooperation among countries for the development of technical and unique support systems at a global level, which is highlighted considering the global situation in handling the dissemination of technical information. India has a sizable number of marginalized sections of people, and they need a different strategy to be adapted in the global pandemic. The rights of marginalized groups and ethics during epidemics is one matter which needs to be immediately address. Overall the stigma associated with COVID 19 would have a long-lasting effect that needs to be addressed too. The COVID era exposes the soft belly of India in the process of control and treatment. The ethical concerns at different levels need to be addressed without losing much time.

**Keywords:** COVID 19, human right, public health ethics, international public health law, health diplomacy, lockdown, quarantine, justice and liberty, stigma

**Introduction**

The world has seen many epidemics in its face in the history of humanity. To name a few like plague, Spanish flu, chickenpox, smallpox, measles, polio, and many more where human life is threatened with massive mortality and morbidity. The recent flu-like epidemics like Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS), which belongs to the coronavirus family, took heavy tolls on human life. The novel coronavirus (COVID-19) believed to be originated in the Wuhan city of Hubei province of China, which latter travelled throughout the world except a few islands and nations (1). The coronavirus is named according to the outer fringe seems to be the shape of the crown, which is a family of RNA viruses (2,3). The problem of China in late December 2019 travelled to India into the southern state of Kerala in the last week of January 2020. It took a slow trajectory to reach the first couple of hundreds of confirmed cases of COVID 19. Later on, the pandemic forces India for total lockdown from the 3rd week of March 2020. The initial lockdown later extended to a few more weeks with the increase of COVID cases. The preparedness to fight the corona virus started with issues like lack of resources and technical expertise (4). Gradually India also matches with resources to contain the coronavirus. The public health challenges are many for such a gigantic epidemic of the highest order in recent times.

The World Health Organization (WHO) also declared this as Public Health Emergency of International Concern (PHEIC) and later on as “pandemic” to mobilize technical support and resource to fight the nano unit measurable virus (4,5,6). This particular declaration makes India more stimulated to take brave steps to control and treat COVID patients. However, many ethical concerns arise during the process of such measures. As India invoke Epidemic Act 1897 and Disaster Management Act 2005, the life and liberty of the people protected under the constitution were compromised. It is legal and backed by constitutional protection, but the life course of people become troubled overnight. The draconian Acts activated across the country to control the coronavirus.

The coronavirus is so much virulent and infective that the entire globe is under threat, and the economic downturn happens with millions of lives in danger (3). This is also referred to as the corona era by many media houses and opinion makers in India due to its protracted influence on humanity. The poor, the rich, the middle class are affected to some extent by the corona era due to its public health havoc. However, the Indian poor are doubly jeopardized due to their lack of access to essential medical services and nutrition. The migrant workers found to be the soft belly of this corona era in India. Not much was done for them by either the federal government or provincial government, and they are allowed to rot in a politically charged environment in such huge numbers.

The medical professionals, health care workers, police, and administrative personnel are also at receiving end due to their direct involvement in the fight against the deadly virus. The lack of Personal Protective Equipment (PPE) and medication to fight against corona make the situation worse. It is like fighting a war with minimal preparation in the single direction of generals of the military. The medical supply remains a considerable challenge in the defence preparedness against corona. The ethical problems are huge in the process of treatment of COVID patients.

India was caught unprepared to tackle the challenges of the corona era despite its remarkable development in science, technology, medicine, and economic sectors. All the weapons in the quiver fall insufficient to heat the bull’s eye and register a convincing win against COVID 19. The openness of public health challenges is so much that the name pandemic declared by WHO is very small to initiate medical emergency support. Despite all the havoc, India tries to follow the ethical principles during this corona era.

The ethical concerns that arise in various spheres to addressed have to be critically analysed. This would help in improving many issues during after the corona era. The corona era knocks down every ethical standard set by the associations, professional bodies, governments, and multilateral organizations. Even new moral norms drafted to combat the situation. The degree of panic is so much that the responsible citizens forget to follow the fundamental ethical principles. In India, there is requirement to put more effort for the preservation of life and liberty in a public health emergency. The constitutional provisions and human rights have to be invoked to provide equitable justice to the citizens of India during this pandemic.

The objective of the paper is to find out and analyse the significant ethical challenges faced during the COVID 19 pandemic. Various predefined thematic areas are identified to understand the ethical concerns. For which authoritative sources consulted, and evidence gathered to strengthen the arguments. The literature search is done by using highly relevant keywords in trusted databases like PubMed, Scopus, Web of Sciences, and JSTOR. Overall recommended measures are also suggested for the preservation of human dignity and ethical practices wherever possible. The thematic areas discussed in the subsequent sections.

**Lockdown and public health ethics**

The lockdown opens a Pandora box of public health preparedness in India in recent times. Here, lockdown hampers the delivery of medical services for many communicable and non-communicable diseases. The existing health care network is near about non-functional, causing inconvenience to pregnancy care, cancer care, dialysis, emergency care, and many more. Though the government blows the trumpet of providing emergency medical services even during the lockdown period, there is still no transportation and availability of medical services in many parts of India, as reported by ground-level media and research personnel. This defeats the cause of continuums of care in primary health care services, which is the cornerstone of health care (7). Various newspapers reported the delivery of babies happened in-home and at inappropriate places even in cities, which is a concern on the achievement of reproductive health care in India. The administration of vaccines and immunization programs hampered to a great extent due to lockdown. In India, the ambulance network is not that great, with a further reduction of existing referral services, the condition becomes worse.

There is rampant panic buying of the essential stuff by the citizens in the lockdown situation. There are also less socialization and more self-medication, which is dangerous for the people during the lockdown. All these activities adversely affect the mental health of individuals. The behavioural concepts like isolation, social distancing, and self-quarantine are detrimental to mental health conditions (7). Though quarantine has a good effect on the health of the community, there are still personal sacrifices making the situation ethically challenging. During the swine flu epidemic, similar features of lockdown observed, which resulted in sheer anxiety among the people (8). Many a time, the online mental health counselling using online mode help in coping with the situation proved to be effective (9). Overall, the effects of lockdown is very much concern during and after the episode of the epidemic.

The lockdown effect was found to be resulting in gender inequality. The burden of care of the family, especially the child and elderly, is very adversely affecting the wellbeing of women (10). In rural and urban areas, women are at receiving end suffering from unattended health issues and domestic violence. As the workload of women increased, they had mental illness. The violence against women during lockdown is a global phenomenon, and the state law and order is incapable of handling the issue.

One of the most significant public health concerns during the previous SARS and MERS experience is deteriorating mental health condition among the victims. The psychological effect is huge among those undergoing quarantine (11). WHO also shows concern for the requirement of mental health services during this pandemic. The Chinese researchers provide details about online counselling for the health workers and those undergoing quarantine. Despite initial dissatisfaction with the government, the workers found a better work environment and emotional satisfaction after the provision of sufficient psychological support (12).

**Economics concerns of COVID 19**

On the economic front, the world was threatened to a great extent because many marked blue-chip companies come to stand still in their business. The business hit rock bottom during this period due to the low consumption of goods and services. The revenues of government weathered out, which results in the unavailability of public services in the crisis time. Developing countries like India have more problems in augmenting medical services and feeding the underprivileged people for a longer period due to lockdown. Though there is an effort to cut the government expenditure, still cost of handling the corona era crisis is too big. Funds are, of course, raised at the global and local levels to sustain the activities and providing minimum facilities. The Strategic Preparedness and Response Plan (SPRP) kicked up for the protection of relatively weak states with the poor health system. The sole objectives of government is to reduce transmission, provision of care, and augmenting communication network to tackle the social and economic concerns. WHO took initiatives for workable diagnostic technology and the prevention of human to human transmission of infection (5).

In this juncture of low capital formation, the Indian state and its provinces undergo lockdown to prevent the spread of infection. Indian government asks the people to forget about their economic wellbeing and focus on the overall health of people. The forecast for growth of the economy was only 1-2 % for the current year 2020-21. The poor in India is not having sufficient income to sustain their family. Therefore the federal and provincial governments are supposed to provide the minimum salary for daily living. There may be the provision of food or work, which would fetch income for moving out of the stress of the corona era. Many of the developed nations have well-defined unemployment allowance for the youth and citizens, which help to navigate at least for the next six months assuming there would be normalcy in the economy afterward. Hence, it would be ethical to provide a universal income to the citizens by redistributing the income of the nation in these difficult times.

The state of lockdown in the entire globe lead to the severing of the global supply chain. India is not self-reliant in many aspects of the economy and hugely depends on China and the European market to keep the economy going on. The breach in global supply chain affects almost all economies (13). The essential ingredients of various manufacturing plants in the pharmaceutical, engineering, automobiles, and aviation sectors usually come from China. Given the fluid situation, it is critical to employment by the county with the continuation of all the processes.

Evidence found that the lockdown as a strict procedure in public health measure is in question, which is shown by the ICMR study (14). Researchers also confirm that people are much less likely to obey the rules and regulations of shutdown for more extended periods (15). All these measures taken by the government have a long term effect on the economy. Ultimately, automated decisions also go hand in hand with public health decisions. So, the government has to look into matters, not in standalone format; instead, there should be ethics in economy and public health for the wellbeing of Indians.

**Provision of medical services**

The provision of medical services in hospitals may be public or private, compromised to a great extent. The existing communicable and non-communicable diseases are not attended in the hospitals due to fear of infections. Neither the patient nor the doctors and paramedic staff ready to provide the services with utmost eagerness and compassion. Hence, many of the hospitals even closed their emergency services in the corona era. Instances also found that if one staff gets affected by COVID 19, the entire hospital is closed, which resulted in the reduction of hospital services. The telemedicine provided at this time is just solving a minuscule of the mammoth problem of healthcare. The medical facilities and epidemiological aspects of the coronavirus measured in different ways. If we test and calibrate the disease, then only treatment is possible. It is necessary to know well the agent, host, and environment of coronavirus. The mode of transmission and herd immunity have to be understood to achieve success in the treatment process (16,17). Various mathematical models used for the critical analysis of the situation of the diseases. Further assessment of the epidemiological process and immunological aspects need to be understood for successful treatment (18). All these things possible by a competent and functional health system with a holistic approach.

There are models of epidemic disease dynamics working in many parts of the world. Accurate analysis is done, and treatment procedures are followed to achieve the desired result of treatment. Evidence found the effect of confounding variables like lockdown has a tremendous impact on the calculation of disease dynamics, and its influence still prevails. Further, adherence to social distancing norms in India has a significant effect on the control of COVID (19). In actual many of the factors are ignored while calculating the estimate. The available medical facility has to be aligned with the epidemiological outcomes, and the emerging scientific results have to be incorporated in the treatment process.

The existing medical services like prenatal and postnatal care get affected due to stressed existing health infrastructure. Ultimately the healthcare overall is not available to the needy, which poses ethical challenges (10). So, the government has to devise mechanisms to provide health care services without reducing the ongoing services and efforts for preventive and curative care.

The availability of the right drug is a big challenge in the COVID era. There is a daunting challenge for the clinicians and the Food and Drug Administration (FDA) to select the right type of drugs to treat the patients. The limited observational and anecdotal evidence in favour of antimalarial drugs (chloroquine and hydroxychloroquine) is chosen for the treatment of COVID 19 (20). Even the Centres for Disease Control and Prevention (CDC) publish the dosages of the chloroquine and hydroxychloroquine for use in America, which later on removed from the website (21). The public health ethics concerned with it is a challenge. The vetting of drugs with rigorous premarketing evaluation for safety is required for the approval of drugs. Further, adequate randomized control trials, which are used as a primary tool for the protection of the public is paramount in public health practice and ethics. In this context, the Indian government has to be vigilant in the provision of COVID medical care.

**Public health preparedness and ethics**

India shows a massive preparation for the new public health challenges of COVID 19 to save Indian the best way possible. Here also, all the people have to be treated equally. The ethical issues of the nation have to be taken care of while protecting citizens of India. There must not be any deviation from the principles of the constitution while implementing healthcare programs for the people. The virus poses an equal danger to all. Health awareness, preventive measures, and treatment have to be provided within the ethical values and constitutional obligations of India. The preparedness seems to be not significant in some parts of India due to various reasons. The places are not just the geographies of India; instead, they represent the values of those areas. So, uniform preparedness is required for the handling of the situation with ethical values. Irrespective of the socio-economic group, religion, gender, and ethnicity, everyone has to be protected with the utmost care. However, the reports mention there is some degree of discrimination in providing services to the people based on some attributes which is unethical in the preliminary plan.

In India, there are many unique features on cultural, demographic, epidemiological, and risk factor profiling which needs to be addressed while forecasting and taking steps for preparedness and treatment (19). The ethical concerns must be aligned with many sound factors to address the issues.

Public health preparedness is in jeopardy due to lack of water and sanitation, along with a lack of minimal resources in rural areas where marginalized people reside. Mere guideline for control of disease would not work rather, effort should be there for yielding results on the implementation (22). So, addressing water and sanitation issues along with rural public health infrastructure is necessary to combat the unforeseen situations. Unless the ethical and humane approach is followed, India will not succeed in handling the outbreaks.

**The stigma associated with COVID 19**

The most devastating nature of the corona era is the velocity of the spread of information, confusion, mental anxiety, and fear among the citizens (5). The stigma must be avoided for effective treatment and control of the disease because people may conceal the virus to get rid of stigma, which is the killer ailment. The WHO has expert guidance, which helps people manage fear, stigma, and discrimination in the corona era (5). Evidence found that myths and misconceptions act as a severe danger to the health and wellbeing of the people. WHO focuses more on myth busters and authentic information to help people in an ethical manner (5). Anxiety affects a lot in society, which leads to stigma. Evidence found that isolated individuals in quarantine have shown fear, anger, and confusion (23,24). All these factors are originated from stigma associated with the disease.

It is an unbearable time for many people suffering from COVID 19, with a colossal stigma linked to it. The stigma is historic causing potent and long term effects on the individual and family members. The stigma is killing more than the disease itself. In public health emergencies, there are many diseases having stigma associated like AIDS, tuberculosis, cancer, and many infectious diseases. But, in a short period, the coronavirus affects many people in the grip of stigma (7). The doctors, paramedics, and other essential care services providers are seen with huge suspicion in the community. It is challenging for them to stay in their locality with dignity. People think they will infect the healthy population. Despite the sacrifice, their life becomes difficult. The patients of COVID 19 also face discrimination even after they recovered from the disease. The myths and misconceptions about the disease make their life difficult. The humanity for the first time with this scale does not greet the friends they love a lot. One human being distant from others, both mentally and physically, to make them safe. But, the compassion and love created through centuries lost to the pandemic conditions. Hence, it is required to maintain ethical standards to de-stigmatize many things. The social scientists have to suggest many measures for tackling the issues of stigma.

The stigma associated with doctors and healthcare workers is severe in India. The landlords are uncomfortable to keep health care workers in their homes. The health care workers are considered to be carrying the coronavirus and are treated as a cause of infection in the community in India. Many of the brothers and sisters of north-eastern states are also treated badly due to their ethnic resemblance with the Chinese people, the country where coronavirus is supposed to be mutated and originated. Incidences of misbehaviour against north-eastern people have been reported by news media, which is quite unethical needs immediate legal recourse to safeguard. The migrant workers coming back to their native land are also maltreated despite their chance of infecting the community in dramatically low. Overall, the communication network used against fighting with COVID 19 by government, media houses, and public health professionals found to be highly questionable. The COVID 19 pandemic is being treated a much more big way than the damage it caused in India, especially in due course the stigma generated from it. Hypothetically, it can be assumed that the COVID 19 may subside in due course of time, but the stigma caused would remain for a longer period of time. This definitely a concern for social ethics and need another level of the fight against stigma. We may win the battle but would be lost the war of stigma, which has myriads of waves to come and go. There is a necessity of crafting the language of communication, which would be lethal against COVID and do not create a ripple of stigma in society.

**Human rights aspects of government actions**

India is a heterogeneous country due to its vast geography and diversity in culture, socio-economic aspects, religion, ethnicity, language, and social groups. In the past also no single solution for an entire country is found to be suitable. The answer has to be customized according to the need of the people. That is why the forefathers of India make a federal structure where provinces were given the power to plan and execute according to their necessity. During the corona era, the central government is found to be ghastly powerful, and all the health and administrative regulations are applied throughout the country uniformly. Human rights are also blatantly violated by invoking the epidemic and disaster management Acts in India. People suffer from health emergencies and are not able to attend care facilities despite their ability to pay for healthcare services. The human right aspects like protection of life and limb by the state are ignored to a great extent due to severe curtailing of the freedom of movement though with precautions. Special permission granted with great difficulty even for availing emergency services. The police and the judiciary are not in a position to protect the right of the citizens. Even the judiciary is functioning with skeletal staff. Their accessibility for various services of the ordinary citizen is not easy in this COVID era. The police administration is also not taking judicious steps according to national and international guidelines for facilitating the care of citizens. As the existing acts restrict many issues of service conditions of medical workers, there would be a violation in the hands of the administration.

The coronavirus poses many ethical and logistic challenges to the Indian policymakers despite their effort to minimize loss of lives. Arguments have been there by the experts that the communication gap hampers the effort government, especially in rural areas, grassroots level, and religious circles (25). The human rights issues are not highlighted by the current media due to various reasons like busy in coverage of corona news, cosy with the current dispension, and their poor financial condition due to lack of profitable business. Overall, government regulation needs to adhere to human rights issues.

The international bodies like The World Health Organization (WHO), Centers for Disease Control and Prevention (CDC), USA and Public Health England emphasizes on the human right issues such as dignified disposal of bodies and respect for the cultural and religious traditions of the victims (26,27,28). In many cultures, people have their way of following different rituals of marriage, funeral, and cultural practices, which is affected by social distancing and other public health norms suddenly. The ethical issues must be addressed while imposing such laws and regulations in the community.

Migrant workers suffer from the abuse of human rights due to lack of work and basic minimum amenities. Various horrifying stories of hunger, the aggression of police, atrocities at quarantine centres, and lack of medical care are reported often in India by media houses and human rights watch. The pan-India lockdown makes the situation worse for the migrants. Neither they stay at the workplace, nor do they go to their home state due to severe restrictions.

**Rights of marginalized groups and ethics during epidemics**

During pandemics, there are a large number of issues and challenges faced by the marginalized section of society in India. The public health issues like access to care, nutrition, and sanitation remain unaddressed for the vulnerable sections of Indian society. Nutrition is a basic need for the maintenance of health. The vulnerable section suffers from malnutrition in ordinary times, which worsens during the COVID pandemic. Public health ethics have to be there to protect migrant workers, landless labourers, unorganized workers, and women workers. Public health nutrition has to be strengthened to fight the effects of lockdown and fight against the corona virus. The sanitation is also a significant concern in Indian cities and rural areas during this COVID era. The sanitation is required to prevent and control the coronavirus. The well to do families in India have a fair amount of access to the basics sanitation. Whereas, the poor and marginalized population struggle to maintain basic sanitation and hygiene. Hence, there is a need to put immediate provision by using portable sanitary measures and improving the existing facilities for the benefit of the people.

Arguments found that in this pandemic, the dalits, tribals, women, migrants, and muslims are affected more than the other people, especially in terms of loss of livelihood and incomes, and access to health services. As the majority of the marginalized people are landless and suffer from social and economic deprivation, the situation is worse (22). The migration for unorganized work to different places itself is a result of economic deprivation, which needs to be addressed with a suitable strategy.

The dignity of a marginalized person is also compromised during this COVID era due to lack of work and government support. This deteriorates the mental health condition of the workers. The vulnerable sections of society suffer from depression and many other mental health challenges while coping with the situation. Further, if they suffer from COVID 19, they would be in massive danger of discrimination in the community and in receiving medical care. Therefore, an ethical approach is required to support the marginalized section of the society.

**Rights of the animal during corona era**

The COVID era put the animals at receiving end irrespective of domestic, stray, and wild animals. The care of animals, both veterinary services and general care, is severely curtailed during the epidemic period. The myths and misconceptions are not just believed but also practiced by the less informed citizens of the nation. Many animals, including pets, are kept outside the house and abandoned due to fear of infections. Despite no evidence of transmission from animal to a human about coronavirus, there is misinformation of zoonotic transmission in India. All of a sudden, the city dwellers, as well as rural folks, try to keep themselves away from the animals. Moreover, stray animals depend on the leftover food of society and act as scavengers in the community. Many people get mutual love from the animals by feeding them and playing with them. Stray animals are also part of our society with mutual benefits. The pets usually do not know to hunt for their food and beverage, and it is also not easy to develop such skills in a short period. If those pet animals abandoned suddenly, it is challenging for them to sustain their life. Otherwise, it can be informed that the situation is cruelty against animals endangering their life and liberty. The animal ethics are compromised. With the world moving towards the “one health” concept, there is no scope for the violation of the public health ethics of the animals.

**Compliance of research ethics**

Most of the research reported during the pandemic is done in a fast track mode to yield the result and use the findings for the prevention and control of COVID 19. This is a commendable step by governments for providing resources to conduct meaningful research. The research community is doing a job of creating new technology and knowledge by working tirelessly. However, the existing ethical guidelines must be followed in letter and spirit in this hard time of humanity while pursuing research. Many of the investigations do not address ethical concerns due to a shortage of time and difficult circumstances.

Further, the experimentation on a human being for the quest of cure has been reported in some places, which is difficult to accept with the existing protocol and guidelines. Many a time, the protocols for research is also highly criticized due to its difficult nature. The ethics of triage also comes under scanner in European countries where the decision to put on ventilation depends on certain algorithms based on age, severity, and survival chances. The vaccine research would help in the prevention of COVID 19, which is high in demand. The entire world is engaged in the research of the immunology of COVID 19. The data sharing is happening within some network. Many ethical concerns also arise in the development of vaccines for COVID 19. The ethical research must benefit humanity at a high level and minimize the risk of participants of the study. There should be clarity by the research community about the beneficiary of research work. They should also understand the use of research in the implementation process in the informed policy-making within a time frame (29). The fruit of research has to be utilized by the entire globe. So, there should be a consortium of working groups for the development of the research network with ethical values for the benefit of the world.

**International law and public health ethics during epidemics**

The international laws always give a free hand to control the epidemics. Even bodies like WHO and multilateral agencies have some obligation in controlling the epidemic. However, the trade and commerce laws many a time play an obstacle for the control of the outbreak. In the COVID era also the medical supplies are inadequate in some parts of India, especially the import of Personal Protective Equipment (PPE) and lifesaving medicines. If there is a supply ban by some country, then India may not get the required supplies. The same also happens if the Indian government banned the export of a particular medical supply, then the ordering country would face the music. In the COVID era, this is common reporting in national and international media where everybody fights for scarce resources. There is absolutely no international cooperation about the rationing of medical supplies. Some countries just stockpile to use the equipment for years to come, and others run out of stock within months. The public health cooperation is required, and international laws should help in the improvement of medical supplies.

In general, the public health laws of a country prevail over international trade laws. The health of the people of one country depends on the other in this time of the COVID era. So international public health laws and regulations should be made robust and the member states have to honour the rules. The ethical issues can be addressed by India, which should be in sync with international laws to avoid any conflict over the operational aspects. On the one hand, India should protect its citizens, and on the other hand, it should honour the international laws on public health at this time of the pandemic.

**Cooperation among countries and ethics**

The cooperation needed among countries to fight pandemic is beyond trade, commerce, socio-economic, and cultural exchanges. Indian state always provides support to the disadvantaged countries during this pandemic. More than business values, ethical values are honoured to address the problems of the world. There is always a strong need for the development of cooperation in technology transfer for vaccines and the production of medical equipment to combat a war-like situation in the COVID era. The Indian government seeks support from the world leaders in various technological development to fight against coronavirus. However, this should be driven by organic cooperation rather than mere control of diseases. The obligation for humanity must be more significant than trade and commerce. Trade will happen and can wait longer, but life is first, which needs immediate support. By fostering scientific cooperation, we can create value in data sharing, cross-cultural trials of vaccines, and innovative treatment procedures. The decoding of the genome of the corona virus, the discovery of vaccines, and drugs to fight the disease is always paramount than the business value. The business will follow latter on once humanity is in its place with full vigour and vivacity. The regional cooperation among the South Asian Association for Regional Cooperation (SAARC) countries is one of the critical components developed by the current Indian government. This can bring a common strategy and resources to fight the coronavirus and overcome it (4,5). However, modern technology for faster tackling of the issues is available in the western world, which needs close involvement with them for the handing of the problems. India should play a role at the international level in the cooperation process of developing vaccines and drugs. India is known as the pharmacy of the world. There is a huge requirement of the technical, manufacturing, and distribution of medicines by India to many countries. Hence in world cooperation, India has the role of ultimate requirement.

The world cooperation for noble causes like treatment and control of the outbreak is also an ethical issue that needs to be pursued by officials of not bellow the rank of head of the states. Then, scientists and health professionals should join in the front line to combat the diseases. If data sharing and cooperation do not happen, there would be a severe blow to the global ambition to defeat outbreaks. The non-cooperation will see and ensure the diseases keep winning, and humanity would bleed and lost. Hence, all requirements like availability of resources, technical expertise, laboratory facilities, and administration come under the ethics of international cooperation.

**Post epidemics construction**

Hope for the best. Let the epidemic be like SARS, MERS, and many epidemics that come and go in the history of humanity and medicine. But, the preparedness before, during, and after epidemic need to be strengthened. We cannot stop a pandemic completely, but we can be prepared actively to combat the situation in conceding minimal damages. So also, the post-pandemic construction can be done with efficiency. The scientific and medical fraternity must overcome the COVID era, which is like a black hole in the history of medical sciences. The damages are enormous for both life and property due to economic devastation. Everyone is heated hard and encountered unexpected challenges in healthcare and life. The ethics in post-construction work have to be aligned with human rights. Post corona construction put the marginalized people at the receiving end. The most vulnerable have to be taken care of first to bring solace in the community. In India, nothing is well organized, and ensuring the right of marginalized is an uphill task, especially in the post-corona era. The resource allocation has to be judicious for addressing the ethical challenges of equitable distribution of medical resources and livelihood concerns (4). Every disaster in India is followed by corruption and mismanagement of existing resources. However, India must ensure this corruption does not happen in the process of bringing back the life of people on the rail. So, mere regulation would not help in reconstruction in the post-disaster rather, and ethics have to be strengthened to yield better results. Evidence shows that health education and awareness help in controlling the epidemic and post-construction work by preventing diseases (30).

**Conclusion**

An integrated model with a sustainable strategy is needed in India to address the myriads of problems the COVID era pose in the Indian civilization. The addressing of ethical issues is not a matter of quick services; rather, this needs a critical reviewing of activities in the process of treatment of coronavirus. Unless we bring the angle of ethics in the activities of government and the non-government sector in the process of solving the issues, we may leave a large chunk of our people in danger, which ultimately poses a serious concern to the entire population. The dignity of every individual should be given importance while addressing the distal and proximal issues of the COVID era. The implementation of programs, making operational guidelines, and protocols have to be in sync with the ethical value of society.

**References**

1. Holshue ML, DeBolt C, Lindquist S, Lofy KH, Wiesman J, Bruce H, Spitters C, Ericson K, Wilkerson S, Tural A, Diaz G. First case of 2019 novel coronavirus in the United States. New England Journal of Medicine. 2020 Jan 31. https://doi.org/10.1056/NEJMoa2001191.
2. Burrell CJ, Howard CR, Murphy FA. Coronaviruses. Fenner and White's Medical Virology. 2017:437. https://doi.org/10.1016/B978-0-12-375156-0.00031-X.
3. WHO. Pneumonia of Unknown Cause – China. 2020. URL https://www.who.int/csr/don/05-january-2020-pneumonia-of-unkown-cause-china/en/ (Last Accessed on 25.04.2020).
4. WHO. Coronavirus Disease 2019 (COVID-19) Situation Report – 46. 2020. URL https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200306-sitrep-46-covid-19.pdf?sfvrsn=96b04adf\_2 (Last Accessed on 25.04.2020).
5. WHO. Rolling Updates on Coronavirus Disease (COVID-19).2020. URL https://www.who.int/emergencies/diseases/novel-coronavirus-2019/events-as-they-happen (Last Accessed on 25.04.2020).
6. WHO Coronavirus Disease 2019 (COVID-19) Situation Report – 70. 2020. URL https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200330-sitrep-70-covid-19.pdf?sfvrsn=7e0fe3f8\_4 (Last Accessed on 25.04.2020).
7. Banerjee D. The COVID-19 outbreak: Crucial role the psychiatrists can play. Asian journal of psychiatry. 2020 Mar 20;50:102014. https://doi.org/10.1016/j.ajp.2020.102014.
8. Everts J. Announcing swine flu and the interpretation of pandemic anxiety. Antipode. 2013 Sep;45(4):809-25. https://doi.org/10.1111/j.1467-8330.2012.01021.x.
9. Yao H., Chen J.H., Xu Y.F. Rethinking online mental health services in China during the COVID-19 epidemic. Asian Journal of Psychiatry. 2020 (in press).
10. Editorial. The gendered dimensions of COVID-19. Lancet 395, 1168 (2020) doi: 10.1016/S0140-6736(20)30823-0.
11. Chan SS, So WK, Wong DC, Lee AC, Tiwari A. Improving older adults’ knowledge and practice of preventive measures through a telephone health education during the SARS epidemic in Hong Kong: A pilot study. International journal of nursing studies. 2007 Sep 1;44(7):1120-7.
12. Liu S, Yang L, Zhang C, Xiang YT, Liu Z, Hu S, Zhang B. Online mental health services in China during the COVID-19 outbreak. The Lancet Psychiatry. 2020 Apr 1;7(4):e17-8.
13. Ebrahim, S. H., Ahmed, Q. A., Gozzer, E., Schlagenhauf, P., & Memish, Z. A. (2020). Covid-19 and community mitigation strategies in a pandemic. https://doi.org/10.1136/bmj.m1066.
14. Chatterjee P, Nagi N, Agarwal A, Das B, Banerjee S, Sarkar S, Gupta N, Gangakhedkar RR. The 2019 novel coronavirus disease (COVID-19) pandemic: A review of the current evidence. The Indian journal of medical research. 2020 Mar 30.
15. Briscese G, Lacetera N, Macis M, Tonin M. Compliance with COVID-19 Social-Distancing Measures in Italy: The Role of Expectations and Duration. National Bureau of Economic Research; 2020 Mar 27.
16. Dimitrov NB, Meyers LA. Mathematical approaches to infectious disease prediction and control. InRisk and optimization in an uncertain world 2010 Sep (pp. 1-25). INFORMS.
17. Piazza NI, Wang H. Bifurcation and sensitivity analysis of immunity duration in an epidemic model. International Journal of Numerical Analysis and Modelling, Series B, 4 (2), 179. 2013;202.
18. Siettos CI, Russo L. Mathematical modeling of infectious disease dynamics. Virulence. 2013 May 15;4(4):295-306.
19. Shah K, Awasthi A, Modi B, Kundapur R, Saxena D. Unfolding trends of COVID-19 transmission in India: Critical review of available Mathematical models. Indian J Community Health [Internet]. 2020Apr.16 [cited 2020Apr.26];32(2 Special ):206 -214.
20. Rome BN, Avorn J. Drug Evaluation during the Covid-19 Pandemic. New England Journal of Medicine. 2020 Apr 14. DOI: 10.1056/NEJMp2009457. https://www.nejm.org/doi/full/10.1056/NEJMp2009457?query=featured\_coronavirus (Last Accessed on 25.04.2020).
21. Kim AHJ, Sparks JA, Liew JW, et al. A rush to judgment? Rapid reporting and dissemination of results and its consequences regarding the use of hydroxychloroquine for COVID-19. Ann Intern Med 2020 March 30 (Epub ahead of print).
22. Parmar D. Public Health during Pandemics and Beyond. Economic and Political Weekly.2020 Apr 1;55(17):1-3. 2020 https://www.epw.in/journal/2020/17/commentary/public-health-during-pandemics-and-beyond.html?fbclid=IwAR0eqIPxKlDywaoCbr9zEn8SoNb-999fXka15oQ3lgONzfjUMCDKAdNEWMA (Last Accessed on 25.04.2020).
23. Brooks SK, Webster RK, Smith LE, Woodland L, Wessely S, Greenberg N, Rubin GJ. The psychological impact of quarantine and how to reduce it: rapid review of the evidence. The Lancet. 2020 Feb 26.
24. Roy D, Tripathy S, Kar SK, Sharma N, Verma SK, Kaushal V. Study of knowledge, attitude, anxiety & perceived mental healthcare need in Indian population during COVID-19 pandemic. Asian Journal of Psychiatry. 2020 Apr 8:102083.
25. Dasgupta A. Managing the ethical implications of coronavirus. Nature India 2020. doi:10.1038/nindia.2020.67 Published online 16 April 2020. https://www.natureasia.com/en/nindia/article/10.1038/nindia.2020.67?fbclid=IwAR12Mw4QZvez8mGCqCE1NXSuT1DiWdmnbchk7PDNWqPRbUTN\_aP9PWP-WrI (Last Accessed on 25.04.2020).
26. World Health Organization Interim guidance 2020. Infection prevention and control for the safe management of a dead body in the context of COVID-19. 2020.
27. Centers for Disease Control and Prevention 2020. Coronavirus Disease 2019: COVID-19 and funerals. 2020.
28. Public Health England (2020)COVID-19: Guidance for care of the deceased. Provision of basic services.2020.
29. Townsend E, Nielsen E, Allister A, Cassidy SA. Key ethical questions for research during the COVID-19 pandemic. Lancet Psychiatry. 2020;7:381.
30. Johnson EJ, Hariharan S. Public health awareness: knowledge, attitude and behaviour of the general public on health risks during the H1N1 influenza pandemic. Journal of Public Health. 2017 Jun 1;25(3):333-7.