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COVID-19:

Humanitarian and Health Care Crisis in a Third World Country

Chittaranjan Andrade, MD^{a,*}

Coronaviruses comprise a family of viruses that can cause illness in human and animal species. The coronavirus responsible for the 2020 pandemic is named severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2); it causes the respiratory disease that is named coronavirus disease 2019, abbreviated to COVID-19.¹

COVID-19: The Time Bomb in India

By April 4, 2020, although more than a million persons had been infected by SARS-CoV-2 worldwide, the official statistics for India reflected only 3,374 infections, which number included just 77 deaths.² The population of India is 1.38 billion and the population density is 464/km².³ The population density is substantially higher in cities; for example, it is about 28,200/km² in Bombay⁴ and 11,300/km² in Delhi.⁵ Given the very large population and the very high urban population density, and given that the pandemic has already triggered a mammoth health care crisis in North American and European countries that have far smaller populations and far lower population densities, why hasn't the pandemic exploded in India?

Critics point out that the India statistics are almost certainly underestimates. COVID-19 testing in India has been sparing; for example, in Karnataka, one of the states of the country with several COVID-19 hotspots, only 55 tests have been conducted per million citizens.⁶ This means that many more persons may be infected than are known to be infected. However, whereas infections may be underestimated, it is hard to miss deaths, especially when deaths occur due to respiratory disease, when deaths occur in clusters, and when there is a high level of awareness and anxiety about the disease and death risks.

Several explanations have been offered for this curious state of affairs. One is that India put containment systems in place early. For example, from as far back as in January 2020, passengers from far Eastern countries in which COVID-19 had been reported were being screened in airports and subsequently quarantined or isolated, depending on

circumstances.⁷ By March 12, 2020, the Indian government shut its borders to international visitors.⁸ By mid-March 2020, many states in the country had imposed limited lockdowns, and on March 25, 2020, the entire country entered a 3-week, total lockdown.⁹

Other explanations have also been offered. The temperature and humidity in India are high, and perhaps this is deterring the spread of the virus; this conjecture springs from the knowledge that the spread of respiratory disease is higher during winter.^{10,11} Admittedly, heat and humidity may reduce transmission, but they do not bring respiratory disease transmission rates to zero. Another reasonably credible explanation is that India is demographically young; the median age is just 28.4 years.³ COVID-19 may affect persons of all ages, but the mortality risk is highest in the elderly.¹²

Yet another, possible, explanation is that COVID-19 in India has so far been moving in modestly affluent circles tied to international travelers, so cases and contacts have been relatively easy to identify and quarantine or isolate; these circles intersect minimally with circles of those who live in densely populated, impoverished environments, thus limiting opportunities for the pandemic to explode. This is changing now, with 35% of the country's cases having been linked to a single religious meeting held in mid-March, and with attendees of that meeting subsequently spreading across the country.¹³ Of substantial concern, also, has been the report of a COVID-19 death in Dharavi, Bombay, which is one of the largest slums in the world,¹⁴ and a place where social distancing would be hard to practice.

Other hypotheses have been more fanciful. One suggests that general levels of hygiene are poor in India and the consumption of street food is high, and so Indians are exposed to and have become immune to most diseases.¹⁵ Another suggests that Indians have received bacille Calmette-Guérin (BCG) vaccination at birth, and COVID-19 infection rates are low in countries that have had a longstanding BCG vaccination policy.¹⁶ Such hypotheses ignore the fact that SARS-CoV-2 is a novel coronavirus. Some also wonder whether the virus in India is a less dangerous mutation.

Positive COVID-19 test results have now come in from 211 (29.3%) of 720 districts in the country.¹⁷ Of these, 8.6% are in the 0–20 years age band, 41.9% in the 21–40 years band, 32.8% in the 41–60 years band, and 16.7% in the 61 years and above band.¹⁸ These numbers do not reflect age-related vulnerability; as already stated, India is demographically young.³

If quarantine, isolation, and the lockdown measures fail, the pandemic might yet explode, and all the hypotheses

^aDepartment of Clinical Psychopharmacology and Neurotoxicology, National Institute of Mental Health and Neurosciences, Bangalore, India

*Corresponding author: Department of Clinical Psychopharmacology and Neurotoxicology, National Institute of Mental Health and Neurosciences, Bangalore, India (andradec@gmail.com).

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considered in this section will be history. If even just 10% of the population is infected and if just 1% of these die of the disease, there would be 1.38 million deaths in the country. The next 2 weeks will be critical.

Lockdown: The Humanitarian Crisis

Many states in the country had declared a lockdown until March 31, 2020. After a trial run with a national curfew on March 22, a national lockdown was declared, starting on March 25 and extending to April 14, with a view to contain the spread of the disease in the country. The lockdown is total, with citizens not even allowed to step out of their houses, except to purchase food or to avail essential medical services.⁹ The lockdown, effected suddenly, without planning and forethought, has expectedly resulted in enormous hardship.¹⁹ In support of the government, however, it cannot be denied that, had warning of a lockdown been given, there would have been panic behaviors and even riots in places ranging from grocery stores and supermarkets to railway stations and airports.

The first and the worst to have been affected by the lockdown were the daily wage earners. The lockdown meant no work, no wages, and no food.²⁰ A sizeable proportion of these daily wage earners are laborers who have come into cities from villages located in different parts of the country.²¹ One estimate puts the number at a staggering 44 million.²² These workers are in desperate straits.²³ Without daily sustenance, now, they have no choice but to return to their villages, carrying meager belongings and children on their backs. There is no transport available, so the journey is made on foot across hundreds of kilometers, and even over a thousand kilometers, in some cases.²⁴ There is no food available along the way, so they must manage in whatever way they can.

Some efforts are being made to either provide them with accommodation in camps and commandeered quarters or transport them by bus.^{25,26} At least 40,000 migrant workers were struggling to leave Delhi, alone,²⁷ and about 600,000 workers are estimated to have migrated on foot.²² Across the country, these workers will now be trapped, with borders sealed, and forced into 14-day quarantines; about 660,000 laborers are presently held in more than 21,600 camps that have been set up,²⁸ and a man-made disaster is unfolding.²⁹⁻³²

A reason to prevent the mass exodus has been the concern that if any of these migrant workers are infected, they will carry the virus to rural India.³³ How humanely policy will be rephrased and implemented remains to be seen. Given the lack of resources, the likelihood of succor is small.³¹

Lockdown: Effects on the Food Supply Chain

The lockdown has led to a breakdown in the food supply chain. Immediately after lockdown was declared, movement of trucks across state borders was stopped, leaving about half a million truck drivers stranded without access to food and water. Many drivers abandoned their vehicles and left for hospitable destinations on foot.³⁴ It is estimated that, now, nearly half of about 5 million trucks are off the road.

Truck drivers fear police harassment and unavailability of food and water along the road, especially in case of vehicle breakdowns.³⁵

The immediate result of the interruptions in road transport is that farmers are unable to sell their produce, and fruit, vegetables, and milk are being destroyed or dumped at the point of production.^{36,37} Efforts in official quarters are now being made to resolve this crisis.³⁸ Grocery shops and supermarkets have been exempted from the lockdown, but many have run out of stocks, and there are long queues to enter supermarkets even to just buy food. Online stores cannot meet the demand.³⁹ The mismatch between supply and demand has led to a rise in prices. The possibility of food riots has been raised.⁴⁰

Lockdown: The Health Care Crisis

There are fewer than 850,000 beds in government hospitals across the country, and the total number of ventilators is fewer than 40,000 in government and private sector hospitals, combined.⁴¹ Poor facilities have led to people breaking out of quarantine.⁴² The shortage of medical facilities has led to innovative solutions, including, for example, a decision to convert railway coaches into isolation wards⁴³ and school buildings into quarantine centers.⁴⁴ Handymen have begun making improvised ventilators.

An average of about 6.9 million persons receive outpatient care daily in government and private sector hospitals, in privately run clinics, and in health care facilities run by charitable organizations.⁴⁵ Most of these persons will not receive care during the lockdown because there is no public transport, because few have personal transport, because those with personal transport may not be allowed out, and because outpatient and other medical services have largely been shut down with mostly only emergency services functioning.

A vivid example of what this means is that a person who needs an urgent root canal dental procedure will have nowhere to go. Toothache does not kill, but it does not allow anybody to sleep, either, and the suffering is great. In like manner, persons with conjunctivitis, migraine, allergies, urinary tract infection, hemorrhoids, anal fissures, minor injuries, unstable diabetes, and a host of chronic ailments associated with discomfort, pain, and suffering will have no access to evaluation and treatment. Patients with neuropsychiatric disorders are at risk of relapse.⁴⁶ Patients with cancer, those diagnosed with HIV infection, and those requiring dialysis are struggling to get treatment.⁴⁷ Blood banks are depleted now that they no longer have access to donors.⁴⁸ The list goes on.

In a model of extraordinary insensitivity that has been condemned by the State Medical Association, the police in one of the states of the country have asked patients needing emergency medical care to obtain passes from their local police station. Women who are pregnant or in labor and persons who have been involved in accidents are included among those who require passes to travel to the hospital. The passes are valid for only 12 hours.⁴⁹

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Telemedicine and enabling of electronic prescriptions may help those who have access to the necessary facilities; a 48-page guideline for the practice of telemedicine has been created and made available at the website of the Ministry of Health and Family Welfare, Government of India. The poorest of the poor, who have no Internet access, will have to do without treatment.

Liquor shops are shut, and so those dependent on alcohol have no legal source of alcohol. There has been a spurt in hospitalizations related to withdrawal symptoms, and there have even been reports of suicide, across the country, in persons struggling with withdrawal. One state is considering the sale of alcohol based on medical prescription^{50,51}; this, however, is unlikely to happen because medical ethics will not allow the prescription of alcohol.

Walking for exercise is prohibited. Gymnasiums, as with almost all other establishments, have been shut down. Diabetic patients are likely to face difficulties in balancing diet, exercise, and medication. A sizeable proportion of adults will gain weight. Weight gained is notoriously hard to lose. There will almost certainly be adverse health consequences in the medium to long term.

This is a bad time for a woman to be pregnant. Women are not receiving antenatal care, including access to necessary antenatal investigations, and children are not being immunized.⁵² There has already been a report of 3 infants developing COVID-19 out of 33 infected mothers who gave birth.⁵³ The possibility of vertical transmission from mother to child has been discussed.⁵⁴⁻⁵⁶ If the virus does cross the placental barrier, there is the worrying possibility that it will predispose to a range of adverse gestational outcomes, neurodevelopmental disorders, and, decades later, even schizophrenia.⁵⁷⁻⁵⁹

The National Institute of Mental Health and Neurosciences, Bangalore, where I work, has launched a 24/7 toll-free national helpline to address mental health concerns related to COVID-19. On March 30, 2020, alone, about 2,500 calls were handled by a 90-member multidisciplinary team.⁶⁰ In our hospital, we are also stitching our own masks and personal protection equipment.

Lockdown: Financial Effects

The lockdown cannot go on forever; it will destroy the economy and destroy the poorest of the poor. Government revenues are drying up, and state governments are harder hit than the central government.⁶¹ The equity markets have already lost a third of their market capitalization,⁶² and the debt market is also sure to be stressed, with more than half of all borrowings by listed nonfinancial companies in danger of default in debt servicing.⁶³ Many companies are effecting layoffs and pay cuts and sending staff on unpaid leave.⁶⁴ As many as 136 million workers have been rendered financially vulnerable.⁶⁵

Recognizing that the fiscal deficit is of secondary importance, the central government has announced a Rs 1.7 trillion relief package; this amounts to nearly 23 billion US dollars. The relief measures include direct benefit cash

transfers to poor farmers, widows, senior citizens, and disabled citizens; collateral-free loans to women in self-help groups; free food grain and cooking gas cylinders; insurance for health care workers dealing with the virus outbreak; and other measures.^{66,67} Around 200 million women will each receive Rs 1,500 (US \$20) in their bank account; this “largesse” will be distributed across 3 months.⁶⁸ Unfortunately, the bailout, amounting to only 0.8% of the gross domestic product, is perhaps too little and too late, and it will not reach the poorest of the poor who do not have bank accounts, fixed addresses, or other credentials to claim the benefits.^{69,70}

State governments are also contributing to monetary relief measures. One government has contributed Rs 1,000 (US \$13) to the bank accounts of each of those whose livelihood has been hit by the lockdown.⁷¹ Those without bank accounts cannot receive this benefit.

The Reserve Bank of India has announced large reductions in the repo rate, the reverse repo rate, and the cash reserve ratio.⁷² These policy decisions will improve liquidity and will help the economy in the medium term but will not push cash or food into the hands of those who need it.

The philanthropic response has been large. At the ground level, individuals and nongovernmental organizations are distributing food packets to the poor. Sportspeople have pledged monetary donations. Government employees are donating salaries.⁷³ At the industry level, one group of companies has committed a sum of 12.5 billion rupees (about US \$150 million) and another has committed 15 billion rupees (about US \$200 million) to relief measures. A large number of other companies have also pledged very large sums of money.^{74,75}

Lockdown: Other Effects

The lockdown is being enforced by the police, who are stressed by having to work long hours and deal with those who violate the curfew without good reason. There have been reports of police violence against vegetable vendors, food and pharmaceuticals delivery men, persons who step out to buy food or medicines, and even health officials, resulting in injury, hospitalization, and even death.⁷⁶⁻⁷⁸ However, there have also been reports of the police as good samaritans.⁷⁹

People are uneasy and insecure. They are forced into prolonged proximity in cramped quarters with nothing to do. Cases of domestic violence have doubled.⁸⁰ Schools and colleges are closed. Entrance and exit examinations and selection examinations for higher education have been indefinitely postponed.⁸¹ Whether students lose an entire academic year remains to be seen.

The lockdown has resulted in persons who traveled being left stranded in cities distant from their homes because all travel by road, rail, and air has been stopped. The lockdown has resulted in feelings of vulnerability because, as an example, if a car breaks down on the road, it will have to be left where it is, abandoned, because no repairs are possible until after the lockdown is lifted. Malfunctioning laptops and smartphones cannot be repaired. No household appliance,

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from a tap to a refrigerator, can be fixed or replaced until the lockdown is lifted. This, in fact, can be of much concern if the refrigerator that has failed is in a pharmacy, or the laptop that does not function is in a hospital.⁸² Nothing whatsoever is possible unless it is related to food, health care, or emergency services.

Parting Notes

The lockdown cannot go on for months; it will destroy the economy, and people will die of starvation or other diseases even if they do not contract COVID-19. However, when the lockdown is lifted, a new wave of infections will start because there is no herd immunity. So exit from lockdown may need to be staggered, and a return to lockdown may later be necessary, perhaps again in staggered fashion.⁸³ The world economy was in poor shape at the start of 2020. The COVID-19 pandemic will push the world into a deep recession from which it could take years to recover. Who would have imagined that a single strand of ribonucleic acid would bring *Homo sapiens*, the apex of evolution, to its knees?

As a final word, people across the world can now experience for themselves what people of small countries suffer when larger countries impose economic and other

sanctions on their countries, or when larger countries wage war on their countries. War, of course, is much, much worse, and nuclear war is unthinkable. One hopes that insights from the COVID-19 crisis will allow compassion, understanding, and cooperation to shape future world policy.

Afternote

At press time, on April 9, 2020, the food and other commodity supply chains are further deteriorating; now, daily movement of trucks has dropped to less than 10% of normal.⁸⁴ The International Labour Organization has estimated that, as a result of just 3 weeks of national lockdown, about 400 million Indians, comprising a third of the population, may slip into poverty.⁸⁵

Recent Health Ministry data show that the age distribution of confirmed cases ($n = 4,067$) reflects population demographics; 47% are below age 40 years, 34% are aged 40–60 years, and 19% are aged above 60 years. Males (76%) are overrepresented among those affected. Among deaths ($n = 109$), the figures are 7%, 30%, and 63% in the 3 age bands, respectively, and men comprise 73% of the deaths. In 86% of those who died, major medical comorbidities were present.⁸⁶ These data are similar to those reported from other parts of the world.

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