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WRITE FOR TOI BLOGS

Explaining India's extraordinarily low death rate from Covid-19

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[Sanjeev Sabhlok](#) in [Seeing the Invisible](#) | [Economy, India](#) | TOI

On [25 April 2020](#) I showed why India is likely to experience a lower death rate from the virus than developed countries, mainly because there are fewer people in India (in relative terms) in the high-risk age group of 80 and above.

On [24 May 2020](#) I discussed two other factors that reduce the spread of this virus: Vitamin D and cross-reactivity (i.e. protection due to prior infection from other related coronaviruses). On [30 May 2020](#) I then combined this information along with data which was by then clearly suggesting that Covid-19 has a population fatality rate 21 times lower than Spanish flu, to provide a relatively optimistic projection about the future path of this virus.

Two months have passed. My optimistic projections have come true across the world. In fact, my 30 May estimates were pessimistic. The pandemic has turned out to be more than 100 times less lethal than Spanish flu. It is also largely over in Europe, including in Belgium, Sweden and the UK. It is close to the end in the US, with multiple scientific projections that the final death toll in USA will be around 165-175 thousand.

The most benign outcome, however, has been for India. Had this virus been as lethal as Spanish flu (which killed 50 million people globally when the world's population was 1.8 billion), it would kill over 200 million people globally today. Proportionately, India would see around 39 million deaths. But after six months this virus has killed just over 32,000 Indians. While this doesn't make this virus innocuous, we need to keep in mind that 27,000 die each day on a normal basis in India, 100 lakhs each year. Instead of being a monster pandemic this has turned out to be a "bad flu".

The pandemic has not yet run its course in India but data are suggestive that its peak was over by late June 2020 in the big cities. A recent serological study of 21,387 samples conducted in Delhi between 27 June and 10 July showed that 23.48 per cent of those sampled had antibodies, indicating they had survived covid-19. And based on my 30 May article, this also suggests that the pandemic is largely over in Delhi.

This data is consistent with reports I've been getting. My sister's family in Delhi had developed coronavirus symptoms two months ago. Their entire family had symptoms, which persisted for many weeks for some of them. When they went to doctors to get themselves tested for coronavirus, they were not authorised to do so. It is reasonable to assume that the cases reported in India are up to 100 times fewer than actual numbers. Close to 200 million Indians may have therefore contracted the virus, with the overwhelming majority having recovered.

There is another basis to arrive at this – because this virus, like other flu-type viruses, runs through nations very quickly, as the charts of Italy, Spain, Belgium, UK and Sweden show. If Western countries couldn't stop its spread with their lockdowns, there is little chance that India could have done so. In particular, once the lockdowns were lifted in early May in India (even though half-heartedly in some places), nothing could have prevented it spread except in some remote pockets.

So if we assume that the virus has largely spread across India, then what explains the low death toll (24 deaths per million compared with over 800 deaths per million in Belgium and around 1700 deaths per million in New York and New Jersey)?

The answer almost certainly lies in cross-reactivity which I had discussed on 24 May. A 23 July 2020 study entitled "Pre-existing and de novo humoral immunity to SARS-CoV-2 in humans" by Kevin W. Ng et. al. provides details. The study looked at 262 samples from SARS-CoV-2-uninfected adults and 48 SARS-CoV-2-uninfected children and adolescents in London. It found that at least 21 of the 48 children

showed cross-reactivity (SARSCoV2 neutralising antibodies) from prior exposure to common cold coronaviruses, but only 6% of adults showed cross-reactivity. This explains why school children are extremely safe – they've almost certainly had common cold recently, so have antibodies that protect them against covid-19.

The main point from this study, however, is something different. It is about the source of the study's sample: London, with its extremely high standards of hygiene. Even children don't easily catch the common cold in London. But in India the noses of all children are constantly leaking due to the common cold. I recall that when I lived in India I used to catch a cold every few weeks; in Australia I do so only once every few years.

The implication of this study is therefore that in India virtually everybody has strong cross reactivity arising from common cold. This also explains why the elderly in India are not dying in large numbers. Most grandparents in India look after their little grandchildren, which transfers common cold viruses to them, reinforcing their immunity.

There are two other likely reasons for India's low death rates. We know that people of Indian origin have died in large numbers in high latitude Western nations because of vitamin D deficiency. But that is not so in India, where we have a dark skin precisely to prevent over-exposure to the sun. Indians living in India, particularly in rural areas, should therefore have protective levels of Vitamin D in summer – and so can fight off such viruses easier.

Finally, a study published on 18 July 2020 entitled, "Association between consumption of vegetables and Covid-19 mortality at a country level in Europe" by Susana C Fonseca et. al. found that countries that have high consumption of vegetables like cabbage and cucumber (these boost the anti-inflammatory Nrf2 protein) have fewer deaths. We know that Indians consume a lot of cucumber, particularly in summer. That should further boost their immunity.

Yes, there is a small possibility that the virus will return in a big way in India in winter, but from the fact that it has already spread so widely and killed so few, we have many reason to be optimistic.

There is clearly no case for a lockdown (there never was any), but all precautions including masks, social distancing, etc. should be continued till we are all very sure that the pandemic is over. We should aim to keep the death toll as low as possible without damaging the economy.

DISCLAIMER : Views expressed above are the author's own.

BLOG

Seeing the Invisible

The blog is named after Seeing the Invisible, the title book on economics that Sanjeev has written. Economics involves the study of invisible incentives and motivations. Self-seeking ministers and bureaucrats often work invisibly and insidiously against the public interest. This is more so in socialist countries where governments undertake a number of unnecessary functions. On the other hand, self-seeking businesses – through their competition for our custom – often end up fostering the public interest. The blog straddles a range of autobiographical, governance and policy issues, including the experience of joining and working within the IAS, letting go of the IAS and learning new things, and attempting to build a liberal party for India.

AUTHOR



Sanjeev Sabhlok

The blog is named after Seeing the Invisible, the title of a book on economics for children that Sanjeev wrote in 2018. Economics involves the study of ince. . .

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