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Could India be the origin of next COVID-19 like epidemic?

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HIGHLIGHTS

- Illegal wildlife markets are not the only reasons for COVID-19 like pandemics.
- Consumption of Wildlife meat is very rare in India.
- There is a very high risk of origin of new outbreaks or pandemics in India.

ABSTRACT

The COVID-19 global pandemic is not even over yet but it has already taught us a lot of lessons - the hard way. The vast majority of the global community has blamed the Chinese Illegal wildlife markets for the origin of this pandemic. Through careful scientific analysis, I have explained in this article that we don’t need such wildlife markets for these kinds of outbreaks to occur in the future. I have also explained how India which is the second-most populous country in the world, could be the origin of the next outbreak, even though such wildlife markets are either very rare or do not exist at all in India.

1. The origins of COVID-19

It all started from a wet market in Wuhan, the capital of Central China’s Hubei province. Wet markets in China like these sold everything from fresh vegetables, fruits, poultry and fishes to illegal wildlife animals like peacocks, bears, deer, pangolins, porcupines, civets, turtles, etc. Among the several such illegal animals listed for sale in that market, there was one remarkable mammal - the bat. It has been reported that the origins of present novel coronavirus can be traced back (directly or indirectly) to the bats on sale in that wet market in Wuhan. According to Daszak et al. (2020) bats contain the highest proportion of mammalian viruses that are likely to infect humans. Bats are truly remarkable as they can harbor so many dangerous viruses without actually getting sick because of them. According to the published literature, there is a 96% similarity between the genome of the bat coronavirus and the novel coronavirus that has infected we humans (Zhou et al., 2020). It has also been reported that quite possibly another wildlife animal was also involved and it acted as an intermediate host of virus between the bat and humans. This is not the first time that a virus from a wild animal has successfully managed to jump over to humans because of the illegal wildlife trade - monkeypox in the USA, ebola in Africa,
salmonellosis in the USA and Europe are all examples of this illegal business (Daszak et al., 2020; Li et al., 2019). At the time of writing this article, the COVID-19 infection had infected 2,435,876 people worldwide and killed more than 160,000.

2. Is India next?

Many countries and animal welfare organizations have blamed the consumption of wildlife meat by the Chinese for this pandemic. Many counties also believe that such an outbreak cannot originate in the future in their own country because of eating habits that do not involve the consumption of wildlife animals. India is one such country where the consumption of wildlife meat is very rare. As a matter of fact, according to a survey India has the largest pure vegetarian population in the world. In another report, India was ranked as the second ‘most vegetarian’ country in the world in the year 2009. Despite these eating habits, India has the potential to become the epicenter of the next global COVID-19 like pandemic. The main reasons include rampant deforestation and human overpopulation in India.

It has been reported in the scientific literature that the consumption of wildlife origin meat is not necessary for exposure towards the various pathogenic viruses that bats may carry and humans may get exposed to these viruses through other alternative routes (Daszak et al., 2020; Li et al., 2019). Bat borne viruses have the ability to infect the livestock and spillover to animals like camels, pigs, goats, buffaloes, etc. Li et al. (2019) reported that people living in rural areas near forests and caves of China were inadvertently coming into contact with bat saliva, urine or fecal matter. In these areas bats were found roosting in people’s homes and were also spotted eating fruits meant for human consumption. Under these circumstances, even vegetarian people stand a very good chance of getting infected by viruses if they consume fruits contaminated with bat saliva. Alternatively, people may also get exposed indirectly to the pathogens if they slaughter/consume non-wildlife animals (lamb, buffaloes, etc.) which have themselves become infected due to the consumption of fruits or vegetables contaminated by bat’s bodily fluids. In other words, the exposure to bat-borne viruses may occur through daily routine activities of rural communities living very close to the forest areas. Thanks to rapid deforestation, areas like these where humans routinely encroach upon the forest land are plenty in India. It was reported in 2019 that nearly 2%, or 13,000 sq km, of India’s total forest area is occupied by unauthorized human settlements (The Hindustan Times, 2019; The New Indian Express, 2019). Millions of people in rural India depend on forests for their livelihoods. A very significant reason behind the deforestation in India is economic development. According to a 2018 report, the government has cleared nearly 14,000sq km of forests to accommodate 23,716 industrial projects across India over the last 30 years (Al Jazeera Media Network, 2018; Kumari et al., 2019; Scroll. In Network, 2016). As this kind of habitat encroachment increases the statistical likelihood of disease spillover from bats and other animals to humans will also increase significantly.

India is hugely overpopulated today (Sandu and Sukiasyan, 2018; Vohra, 2015). According to many experts, human overpopulation is the world’s worst environmental problem. As the population increases people also need food, shelter and other natural resources which directly or indirectly lead to deforestation. Moreover, overpopulation also generally leads to unhygienic and dense living conditions. China is presently the world’s most populous country and its Wuhan city itself is so densely populated that many experts are not surprised by the way the COVID-19 virus originated and spread like wildfire there. India is expected to overtake China as the world’s most populous country in the next few years (Sandu and Sukiasyan, 2018; Vohra, 2015).

I have listed above various scientific reasons explaining how India could become the birthplace of the next outbreak or pandemic. Considering the fact that currently 17.7% of all the humans on earth live in India, any outbreak or epidemic originating in India will have major global implications. The outbreak in China should be a wake-up call for the Indian government. Through this medium, I intend to bring the urgent attention of the scientific community, authorities, and governments, towards the kind of disaster that a country like ours (India) may face in the future. Lastly, it is imperative that the developed nations of this world and bodies like UN and WHO guide and advice developing nations like India upon these issues. The rest of the world cannot afford to sit back and relax as countries like India demolish their own forests.

COVID-19 pandemic has taught us that viruses and outbreaks do not respect national/international boundaries. They are a global threat.

CRediT authorship contribution statement

Sachin Minhas: Conceptualization, Data curation, Formal analysis, Investigation, Project administration, Resources, Software, Supervision, Writing - original draft, Writing - review & editing.

Declaration of competing interest

The author has no conflict of interest to declare.

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