MORTALITY OF OUTBREAKS: WHO IS DYING, NOT HOW MANY ARE DYING!

Posted on June 9, 2020 by Gautam Satheesh

Category: Opinion

Nothing routs us but the villainy of our fears. - William Shakespeare

Fear of death creates more panic than death itself. In 2018, more than 220 million contracted malaria and over 400,000 died from it, mostly children. But this did not hit the headlines. Lower Respiratory Tract Infections claim about 3 million lives every year . Tuberculosis kills 1.5 million annually while

diarrhoea kills about 1.4 million . HIV/AIDS claims another million. Even road injuries kill 1.4 million people annually, or simply put, 3700 deaths every day . Most of these deaths – including road accidents – are endemic to developing third world with weak health systems. Above all, most of them are preventable!

Even developed countries tend to ignore deaths from well understood causes. Measles, eminently preventable by time-tested vaccination, killed 140,000 in 2019, with exceedingly high number of infections from US and Europe . According to CDC estimates, influenza or the 'seasonal flu' has affected over 40 million Americans in the past six months, hospitalizing 500,000 and killing at least 50,000. In fact, the past two flu seasons i.e. 2018-19 and 2017-18, witnessed 34,000 and 61,000 deaths respectively in the US . Surprisingly, even the sensational Swine Flu Pandemic of 2009 did not raise mortality above the numbers anticipated from regular flu.

The growing mortality of the ongoing COVID-19 pandemic is at 352,000 as of May 27^{h} (*see figure*). Death tally is not the real reason for panic; the major worry is that US is leading with over 100,000 deaths! What has surprised the world is that the richest nations in Europe and USA account for over 80% of all deaths. Only a much smaller fraction of deaths have occurred in third world. All these startling accounts notwithstanding, only pandemics have the rabble-rousing scare-power to put global health in the spotlight.

Why are viral pandemics so scary? Mostly because it scares the developed countries that do not encounter infections without a treatment. COVID-19 being novel, nobody is immune, least of all those who dwell in sanitized comfort. The first world is also well-connected; from Wuhan today, the infection would reach Lombardy tomorrow (and it did!).The key takeaway is that all hell broke loose only when the virus hit Lombardy. Even more so when it hit Los Angeles! In the post truth era, human lives differ enormously in value. The problem seems to be centred on who is dying, rather than how many.

Does it always require a never-before-known zoonotic virus from China, for international health to receive its well-deserved geopolitical attention? The 2002-2004 SARS pandemic – a coronavirus infection first identified in China – initially created a furore reminiscent of the ongoing pandemic, although it was responsible for only 774 deaths from an estimated total of 8,096 infections .

Of course, the quantum of 'fear' primarily depends on who is getting scared, and how this fear is being disseminated across humanity. The 'fear of the unknown' appears to driving the ongoing panic, more than mortality rate itself. The groundwork for panic was set years before the first case was reported in Wuhan. Public health researchers all over the world have been predicting an outbreak comparable to the dreadful Spanish Flu of 1918. Visibility is what makes an event.

Much of the sensation has been roused by the various mathematical 'models' and 'projections' that are seldom accurate. Predicting epidemiological curves for a pandemic is extremely challenging. Most epidemiological models – especially those predicting India's curve – were, thus far, overestimates of reality. This is not new, in early 2000s, various bodies including World Health Organization (WHO) estimated the projected HIV prevalence in India to be 20-37 million by 2010 . However, 2011 census however showed that only 2 million lived with HIV/AIDS. WHO's COVID-19 mortality estimate of 4% too appears to be an overestimation as this is only based on confirmed cases i.e. tip of the iceberg, and not the asymptomatic or unconfirmed cases. Moreover, pandemics must consider immune responses among varying subpopulations, levels of exposure and repeated exposure . Even the WHO – now deprived of funds and at the mercy of politicians – has claimed that COVID-19 is ten times deadlier than swine flu. The same organization had also ruled out human-to-human transmission, and the need for travel restrictions earlier this year, while going overboard lauding China's efforts to curtail the disease.

Another reason for the panic is our inability to estimate risk. This weakness is not exclusive to the lay community. Steven Pinker quotes a sensational example in his book *How the mind works*:

The following question was administered to the staff and students of the Harvard Medical School,

" if a test to detect a disease whose prevalence is 1/1000 has a false positive rate of 5%, what is the chance that a person found to have a positive result actually has the disease, assuming that you know nothing about the person's symptoms or signs?"

Only 18% of the sixty respondents gave the correct answer, viz 0.02!! ....."the most popular answer was 0.95. The average was 0.56....."

Tversky and Kanheman have extensively researched the psychology of risk appraisal. They have 'drawn attention to the depressingly low intellectual quality of our public discourse about societal and personal risk".

The ultimate factor that propels fear is simply money. Healthcare innovations are driven by financial incentives. The reverse is also true. For instance, oral rehydration therapy – a simple, dirt cheap, sugar and salt remedy to prevent millions of diarrheal deaths each year – has been side-lined to make way for inappropriate intravenous fluids and antibiotic misuse, even when antibiotics are useless in diarrheal cases, dominantly of viral origin.

The Chinese word 'crisis' is composed of two characters, one representing danger while the other representing opportunity. Pharmaceutical companies have already begun to seize the COVID-19 opportunity. The shares of US based Gilead Sciences Inc – spearheading COVID-19 drug research towards an early blockbuster – have risen by 20% this year. The capitalist ideology has vested in the pharmas the outrageous authority to set prices as high as they please. The cost of insulin has skyrocketed by 250% over the past decade in US, where over 100 million live with diabetes . The Swine Flu panic in 2009 was at least partly motivated by an opportunity to sell Tamiflu, which had won the regulatory approval from FDA . (Interestingly, Tamiflu too was developed by Gilead and licensed to Roche). There is nothing new in this; the 'Deep State' has always exploited nefarious opportunities for selling lifesaving drugs at outrageous prices. There aren't many Yusuf Hamieds of Cipla, who succeeded in challenging the hegemony of big pharma with 'dollar a day' HIV treatment to South Africa, as opposed to the western prices of 15,000 dollars.

If the COVID-19 has been a wakeup call, it is about time the world realizes that the pandemic season is not the occasion to begin designing a robust health system. Preventable and treatable illnesses that continue to kill millions should not remain a third world problem. Preparedness – even in the absence of an epidemic – reflects optimal primary healthcare.

As of May 27th 2020.

REFERENCES

1. World Health Organization: The top 10 causes of death, on 14 April 2020; https://www.who.int/news-room/fact-sheets/detail/the-top-10-causes-of-death

2. World Health Organization: Global Tuberculosis Report on 14 April 2020; https://apps.who.int/iris/bitstream/handle/10665/329368/9789241565714-eng.pdf?ua=1
3. World Health Organization: More than 140,000 die from measles as cases surge worldwide, on 14 April 2020; https://www.who.int/news-room/detail/05-12-2019-more-than-140-000-die-from-measles-as-cases-surge-worldwide
4. Centre for Disease Control and Prevention: 2019-2020 U.S. Flu Season: Preliminary Burden Estimates on 14 April 2020; https://www.cdc.gov/flu/about/burden/preliminary-in-season-estimates.htm
5. Business Insider: How SARS terrified the world in 2003, infecting more than 8,000 people and killing 774, on 16 April 2020; https://www.businessinsider.in/science/news/how-sars-terrified-the-world-in-2003-infecting-more-than-8000-people-and-killing-774/articleshow/74234291.cms
6. Mehta, S.H. and Bollinger, R.C. Estimating Rates of HIV/AIDS in India. In: Lu, Y. et al, eds. AIDS in Asia. Boston: Springer; 2004, 337-349
7. Medical News Today: Why are COVID-19 death rates so hard to calculate? Experts weigh in, on 15 April 2020; https://www.medicalnewstoday.com/articles/why-are-covid-19-death-rates-so-hard-to-calculate-experts-weigh-in#Why-calculating-the-death-rate-is-so-tricky
8. Pinker, S. How the Mind Works. New York: W. W. Norton & Company; 2009.
9. T1 International: Access to Insulin and Supplies Survey, on 15 April 2020; https://www.t1international.com/access-survey16/
10. The Conversation: Controversies in medicine: the rise and fall of the challenge to Tamiflu, on 15 April 2020; https://theconversation.com/controversies-in-medicine-the-rise-and-fall-of-the-challenge-to-tamiflu-38287
11. Worldometer- real time world statistics, on 15 April 2020; https://www.worldometers.info/

About the author

Gautam Satheesh is a research assistant with CHD Group.
M.K. Unnikrishnan is a global pharmaceutical consultant with CHD Group.

Disclaimer: Views expressed are the authors own. CHD Group takes no liability on behalf or for the contents expressed.