

## COVID-19 PANDEMIC: LESSONS LEARNT AND THE NEW NORMAL AS I SEE IT

Pandemic! The word pandemic, until last year, was merely a theoretical term which I had read in textbooks on preventive medicine during my undergraduate days. But with the passage of each month of 2020, the horrors of COVID-19 started unfolding in front of our eyes initially from China. Then from far away lands of Italy, USA, Brazil until it reached our shores during end of January. It has been as surreal as being hit by a Tsunami when it makes landfall after all the predictions and warnings by the meteorological department.

First thing that it has taught us is that *the whole world is a global village* and despite lockdowns and other crippling restrictions imposed by many governments, what happens in one part of the world today eventually spreads to the other parts. We now know that this virus belongs to the corona virus family. Viruses that are notorious for genetic mutations and evolution of new strains. And thus we should be prepared for more such pandemics in future. Moreover, being a respiratory virus it is highly contagious and difficult to contain. Proper diagnosis is the first hurdle. The diagnostic process starts with nasal or oral secretion collection which has to be done by specially trained technicians with full personal protective equipment (PPE) and immediately after collection these have to be kept and sent in special viral transport media to a biosafety level (BSL) 3 or 4 laboratory. After that RNA extraction is done by highly skilled personal in a special chamber of such a laboratory. Then the sample is run in RTPCR machine for a minimum of 35 cycles which is time consuming and the interpretation of which requires specially trained microbiologists. Additionally, setting up of a BSL 3 lab with the RTPCR machine is very costly and so are available in very few centres which are mostly government run educational institutions. There was very less demand for such labs before the pandemic and once the pandemic is over the demand for these labs will again be negligible. So it is not viable for most of the small and medium private labs who are the back bone of the healthcare system to share the burden of diagnosis. Thus diagnostic centres are disproportionately low in number when we want to test the masses. So we have to increase the number and capacity of testing of such labs for future.

Next it would be worthwhile to look into the *role played by World Health Organization* during this ongoing outbreak. On 30 December 2019, WHO first obtained a Chinese report of seven or more cases of atypical pneumonia from Wuhan and it took one month to advise that the outbreak constituted a public health emergency of international concern (PHEIC). Initially it toed the

Chinese version that there is no evidence of human to human transmission but after changing its advisory many times it stated that it is airborne and has human to human transmission. So leaders of some influential western countries are questioning the reputation of WHO as the global watch dog of health sector of the whole world. But let us not forget the other fronts where WHO has done some yeoman service such as sending over two million pieces of personal protective equipment to many countries across the globe till date. Most importantly it has launched a “Solidarity trail” - an international clinical trial involving 90 countries to help find an effective treatment. In February it brought together 400 of the world’s leading researchers to identify research priorities for development of a vaccine. Hence I would like to suggest that the organizational structure of WHO should be strengthened and the early warning system for any outbreak should be made free from bias.

Biomedical research has contributed immensely to the welfare of mankind ever since English doctor Edward Jenner discovered the first vaccine against small pox in the year 1796. All these years we were basking in the glory of such research and were proud that we could eliminate small pox and we now have vaccines against many viral diseases like measles, mumps and rubella. But the spread of SARS-COV-2 from Wuhan, a densely populated city of China which has no natural habitat of bats has prompted us to wonder about the possibility of bat-human interaction at one of the renowned virology laboratory there. The origin of the COVID 19 virus is not clear. This laboratory opened its biosafety level 4 lab in 2015 and is known for its extensive research on corona virus. So chances of accidental spread and jump of virus from mammals to man cannot be ruled out. So irrespective of this lab being the source of this virus or not, *biomedical research should be regulated only for medical purpose* and these kind of laboratories should be set up in far flung places and maintain highest level of biosafety for their working personals in all countries.

This pandemic has *exposed the public health care system* of most of the countries and developing countries in particular. During normal times 70% of the disease burden is borne by private sector hospitals and only 30 % is borne by public sector hospitals. But now partly because of fear of being declared a containment zone and closed down for 14 days if any patient tests positive for COVID19 and partly because of limited infrastructure to deal with respiratory viruses the role of private sector is almost negligible in this scenario. To add to this are the pre-existing ailments such as low doctor-population ratio, low hospital bed-population ratio. This pandemic has also made it crystal clear that we need to spend around 6-8% of our GDP for health sector if we want to have

a robust health care infrastructure. The critical care facility is very limited in developing countries. ICU beds are disproportionately low in numbers. To man these units there are very few critical care physicians, pulmonologist and anaesthesiologists. Now it is seen that we the overburdened anaesthesiologists are silently leading the war against corona as we are the versatile genius who can work inside OTs, in ICUs, inside aeroplanes or high-altitudes or battle-fields. As anaesthesiologists, this pandemic has stimulated us to change our conventional practice and go for regional anaesthesia and nerve blocks where ever feasible.

Next lesson is that we have *to plan for future infrastructure designs keeping viruses in mind*. Although we have made spectacular progress in management of many diseases like myocardial infarction, stroke and our emergency rooms are ever prepared for accident and trauma but we are awfully underprepared for the tiny invisible enemy called virus. From now on while planning new hospitals we have to keep provision of proper isolation wards with negative pressure rooms. We have to have separate entry and exit for staff and patients and proper place for donning and doffing of personal protective equipment. We also saw tremendous and unprecedented cooperation among many countries during the initial phases of the pandemic. Many countries had to divert their resources into making PPE and drugs in large scale which were negligible before the pandemic and they gladly shared these with those who were in immediate need. Most importantly this has taught us the *need for self reliance in health sector* .

Now we are at such a juncture that those countries which were hit by the pandemic early are witnessing a decline in number of cases as well as case fatalities and those who were hit later are now witnessing the peak. A new normal way of life is emerging where wearing masks while stepping out of home is considered normal. Maintaining social distance when in public space and frequent hand hygiene has become common. In addition, respiratory etiquette has gained prominence. In the field of medicine , the concept of universal precaution for blood borne infections which started after the onslaught of AIDS will now have to include respiratory precautions also. The era of respirators and hand sanitizers have started and is the new normal.

I would like to conclude by stating that as most of the nations nowadays have an astronomical defence budget and have sophisticated weapons and large armies on operational preparedness to defend the borders, so such operational preparedness should be there for defending the health and wellbeing of its citizens too. It seems we are more prepared to defend ballistic missiles but are caught unprepared and defenceless against the tiniest and invisible enemy called the virus. Further I would like to remind all of us of our history that mankind survived the Spanish flu, Plague , Small pox, Ebola, SARS, MERS and many more, so be optimistic. Learn to expect the unexpected. There is no precedent of the involvement of almost the whole world like what we are witnessing today. But as the iconic song goes ...we shall overcome someday, deep in our hearts we do believe we shall overcome someday.

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