

COVID-19 Vaccines - Antibody threshold not known yet - Infected may not need second jab!

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the globe, a simmering debate over COVID-19 vaccine manufacture, procurement and distribution has roiled the tectonic plates of geopolitical equilibrium, already under strain over the issue of origin of the virus. Yes, vaccine is the only redeemer for the countries stuck in an 'infectious' pickle! A few early 'birds' which managed to stay ahead in the race with a countable number of 'participants', also used the scarce commodity to bolster their precipitously falling geopolitical image. Strangely, vaccine diplomacy was prioritised over the domestic needs and was also showcased to market the so-called superiority of a particular political system! Secondly, it also became a gauge for scientific prowess of a country! Shockingly, they began to ship even unfinished vaccines (prior to phase III of clinical trials) to coddling autocrats and others! China and Russia had an uncontested run as the US, UK and EU

preferred to focus first on their domestic turfs, followed by donation or sale of the surplus if any!

In fact, the Biden administration has made a beginning by donating 80 million doses of AstraZeneca vaccine which is yet to be approved in the US. It has also richly contributed to the COVAX kitty so that it could meet its two billion doses target by the year-end.

One interesting fact which has emerged from the US donation policy is the grant of priority to the neighbouring countries if America is to keep the virus away from its fences. This makes sense and also promotes bonhomie with the troubling neighbours who are being persuaded to stymie the unstoppable stream of ocean of migrants. Incidentally, India also fell in the geopolitical trap and joined the race by keeping an eye on China as well as its enhanced global standing in the recent years! It donated and exported as huge a quantity as 600 million doses to 76 countries under its 'Vaccine-*Maitri*

' Initiative. Such a decision certainly brought laurels for India and the Prime Minister, Mr Narendra Modi, but for the record death count during the second wave of the pandemic when much-needed momentum in vaccination was sorely missed

and Mr Modi was held by his natty collar for letting the people down by resorting to short-sighted and self-sabotaging vaccination export policy. A constant poke in the eye of the Opposition parties! Spiralling death count also enabled Mr Modi's critics to accuse him of deriving joy out of orgy of sadism! Many called it one of the dumbest policies!

What pumped more ammunition in the growing din of criticism of Mr Modi was the dearth of vaccine stocks in most of the States which arrested the pace of vaccination to an unpalatable halt! Aha! A case of vaccine delusion! The Modi Government was simply, simply wrong at donating and exporting such an eye-watering stock! And believe me, the bitter vaccine controversy was not hanging by a fragile thread which would get suspended merely because Mr Modi has agreed to make a fig leaf amendment in the vaccination policy and offers a 'free lunch' to the States! As the days roll out, the political waters would get much muddier and stinkier!

The next bout of tussling is largely going to revolve around conspiratorial allocation of a particular brand of vaccine which may be questioned without a blink and a thought about how the image of a home-grown vaccine such as Biological E may be smeared in such political slugfest! Secondly, since all the required quantities would practically not be available in all the months to come, let's not rule out hurling of allegations like BJP-ruled States being favoured or given priority over Opposition-ruled States! The copious wiggle room for revenue loss to vaccine manufacturers and also private hospitals as service charge is capped at Rs 150 may give rise to more controversies!

Only recently, when the Central Government notified the lengthening of time gap between the two jabs of the Covishield vaccine, quick came the lambast that the vaccination regimen is being mended only to conceal the embarrassing shortage of stocks which have wrongly been exported or donated abroad! Such allegations coupled with a lengthy fall from grace during the second wave of the pandemic rudely nudged Mr Modi to match the drumbeats of the opposition by announcing a centralised vaccination policy. I personally favoured such a policy, not to be wannabee America, but purely based on the wisdom of elementary economics and also fundamentals of best management practices!

Given the limited resources available with the deficit-walloped Central Government and also the time element involved in the manufacture of such large quantities, the vaccination task force should ideally be driven by the findings of science. Traditionally, science has been a laggard in finding solutions but it is certainly and fortunately not so in case of COVID-19. Apart from developing mRNA and DNA-based vaccines, various

studies have established that

vaccination of people already infected by the pathogen may be delayed as infection itself profusely produces enough anti-bodies to ward off fresh infections.

What does vaccine do in human body? Vaccines mimic natural infections sans making people sick. It has been found in American research that if people previously infected receive vaccines later, they may enjoy **durable protection** . It has been detected that robust immune cells reside in the bone marrow of people who were infected with the virus or were vaccinated

. Such cells retain a memory of the virus and may generate antibodies whenever needed. Such memory B cells also continue to mature and become stronger for at least 12 months after initial infection.

How long such immunity would last? May be a year or life time! - there is no clear finding yet but protection is certainly not going to be short-lived. Another interesting finding of such studies is that a high percentage of people who have recovered from coronavirus infection and were later inoculated, will not need booster doses

. However, vaccinated people who never fell prey to infections, would perhaps need more shots. In short, people who have experienced the virus, develop more robust anti-bodies than the ones who are simply vaccinated but vaccination also provides similar protection. Studies have found out that memory B cells triggered by infection and fortified by vaccination are so potent that they thwart even variants of the virus, nixing any need for booster doses -

a further saving of the scarce vaccine which may help poor and heavily populated countries to provide the first jab to as many as possible!

As regards the antibody level which was found to be waning after a few months of vaccination and people fretted about it after a test, the studies have concluded that the decrease of antibody in blood is a good sign! If blood is lumbered with high quantity of antibodies to every virus the body is infected with, it would morph it into a thick and viscous sludge

. The actual protection comes from the memory B cells taking up residence in bone marrow. A natural corollary that arises here is - how much antibody after vaccination is good to protect from future infection? Only a smattering of clues is available so far! The world needs to wait for some more months before researchers come up with a sure-footed answer. Therefore, the message being driven home here is that people need not split their hair or rush to labs for antibody test after getting vaccinated as it would not help until a threshold of antibody is arrived at.

What about mixing and matching of vaccines? Some patients in Uttar Pradesh State recently reported mixing of vaccines and the same was treated as human error. Although the Indian protocol plays shy on this issue but various studies in the US, UK and other countries have indicated that switching vaccines may strengthen boosters

. What about protection from new variants like Alpha and Delta? A few studies which are yet to be peer reviewed, have suggested that thankfully, all the vaccines developed so far are not completely neutralised by the new variants but their effectiveness is partly eroded. This means that vaccinated people would not get severely sick even if infected. A similar study done by AIIMS and NCDC has found that 'Delta' variant can infect people even after both the jabs of Covaxin and Covishield. However, humanity faces big risk from the rapidly mutating virus which has shown tendency to be more virulent and transmissible with new variants. Though mutation is a regular phenomenon in viruses and many do not evolve beyond a point but a few, depending on the support from the host, turn more virulent and carry a dose of misanthropy!

In a nutshell, our Task Force on Vaccination needs to keep updating its policy guidelines as and when new scientific findings are available after peer-reviewed as such

regular updating may help save precious vaccines for the unvaccinated rather than using them as second jab which are not needed particularly in case of people who have survived the infection.

India has reported 2.9 Crore people as infected. If we minus the total deaths, it still makes a whopping number who may not require second jab and the same can be utilised to vaccinate the vulnerable population in the country or even other countries through COVAX.

Secondly, as India prepares for a massive drive from June 21, the policy makers also need to work on a strategy to persuade a large population of anti-vaxxers. They may be incentivised in some forms. Tamil Nadu Government has recently offered many goods including a scooter in lottery for such people. And it has worked! The White House recently endorsed free beer, free childcare and access to premium subscription of dating Apps! California is offering huge lottery prize and also cash incentives. India cannot afford such expensive sops but some sort of sops is needed as education and hand-wringing alone would not be enough to overcome such socio-economic bottlenecks!

A good option to pole-vault the number is to involve all MPs, MLAs and local influential persons so that anti-vaxxers' trust is earned back. Unless timely attention is paid, anti-vaxxers may constitute a large swathe of population and the vaccination graph may not soar beyond a kink!