



Mistrust in COVID-19 Vaccine during Pandemic!

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SARS-CoV-2 or severe acute respiratory syndrome initially emerged in Wuhan city (Hubei Province), China on December 8, 2019. Initially thought to be endemic, but soon the virus spread to Italy, the United States, and the rest of the world [1]. Before we know it, it created global chaos and economic turmoil and travel curtailment, and in many cases lockdown of the countries. To date (3/21/2021) it has infected 123,703,573 people globally and accounting for 2,725,105 death globally. The United States despite being the global leader failed to recognize the gravity of the situation and the virus spread all over the country infecting 30,490,614 people and accounting for 554,962 death [2]. This is equivalent to 275 passengers in Boeing 747 and every day 5.5 of those Boeing crashes and every single passenger dies. Having the tragedy aside, the world has embraced the challenge effectively with therapeutics and vaccines for the prevention and treatment of COVID-19, emerging in record time.

The flow of science, which has operated in the direction from peer-review journal-to-press release was reversed and went from press release-to-wall street-to-peer review journals. In the beginning, every medical journal was in a race to quickly publish any reports or the medical facts related to COVID-19. Very weak data or marginal studies were published, and the clinicians across the world ran with the case report and case series studies to help and guide the treatment for their patients. Over months, the therapy which was voiced as beneficial failed to show no effect and, in some case even harmful side effects, creating confusion not only among

the public but the healthcare providers as well. On one hand, both public and healthcare providers were willing to try any therapeutics no matter how small hope it offers, as long as any study has shown some positive effect. Besides, the management of COVID-19 not only sailed initially on the weak data but also political ground.

The leadership failure was seen globally, where they tried to minimize the effect of COVID-19 to protect the economy, hence helping inadvertently the spread of the SARS-CoV-2 infection. The world saw the fiasco of hydroxychloroquine, which was politicized initially as an effective therapy, based on gut feeling and politics, rather than on science and data [3]. Several other repurpose drugs as ivermectin and colchicine showed some positive response and were advocated for use in everyone as there was no time to wait, while the virus is still active in infecting and causing global mortality [4].

The world scientist proved their intelligence and capacity by stepping up to the challenge by designing the randomized trials both for therapeutics and vaccines and completing them within record time. The vaccines which could have taken 5-10 years started getting the phase 3 trial completed and the approval process done for emergency use authorization in less than a year. The pharmaceutical companies were blamed during this process for not being transparent. The Chinese and Russian vaccine companies were getting their vaccination given to their frontline workers, without the data being published or gone through the peer-review journal.

The media played a role in keeping the COVID-19 stories globally alive, with every small data on any studies started coming out in news before undergoing peer review. This news was transmitted to the global population on a constant basis. Sometimes these earlier data were refuted by the peer review data and the larger studies creating more confusion and mistrust.

The questions were also raised on the effectiveness of the vaccine, how long does the protection last, would they protect against the variant as UK variant, South African Variant, Brazilian Variant, and many other variants which can be emerged in due course. Also, which one is a better vaccine as Moderna or Pfizer with 95% efficacy or Johnson and Johnson vaccine with efficacy < 75%, but effective in preventing severe illness and against some variant [5]. On the other hand, the Chinese vaccine as cansino, sinofarm, and Russian Vaccine as Sputnik V have also shown good efficacy and protection against severe illness and hospitalization [6]. The data and transparency for the Chinese vaccine still lack, whereas Sputnik V has published their phase 3 trial result in Lancet [7].

The distrust can be based on product trust, provider trust, or political/system trust, which in turn can be influenced by the historic trust/distrust, generalized trust/distrust, or out-of-program influencer [8]. Vaccine acceptance involves several layers of trust, ranging from the product (as to which product or company the person trust), provider trust (as to if a person trusts the provider and have faith in the provider/persons' recommendation), and the trust in the policymaker (in other word trusts in the health system, government, and the leadership) [9]. Trust can also be in the information, consistency, and reliability (which we failed miserably in the COVID-19 pandemic with mix messaging and playing down of the pandemic for a political reason) [10].

Larson and colleagues in their systematic review showed that trust in the health system and government was found to be a reliable predictor in taking the vaccine [8]. On the other hand, among disparity populations, the historical and consistent ignorance by the government has led them to distrust guidance or recommendations coming out of the government [11]. A recent survey of the American public showed that 37-40% of Americans would not, or probably not take the vaccine, despite enormous vaccine safety data with more than 100 million Americans have already been vaccinated. This reluctance can be due to multiple reasons, several of which have been mentioned earlier. Besides, there are anti-vax

groups, for them no vaccine is safe. There is misinformation in the social media as the vaccine will alter your DNA and genetic code, or it is the plot by Bill Gates or Elon Musk as slated by the conspiracy theorist [12]. But the majority of the people are hesitant based on lack of transparency, conflicting data, worried about the side effects, misinformation, and lack of education and knowledge, or they just want to wait out and see how the other fare with the side effects of the vaccine if they get any.

The pandemic is still not over. The infection and mortality are increasing in several parts of the developing countries, while the beneficial effects of the vaccine have been seen in the developed countries with a decrease in the number of cases and mortality. One of the effective ways to combat the vaccine naysayers is if all the world leaders, healthcare providers, and the scientist can unify on a single message which can help boost up the confidence of the public and those sitting on the sideline can get vaccinated when their turn comes to be vaccinated to help achieve the global herd immunity.

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