Title: CORONA VIRUS (COVID – 19) ANTIDOTE AND ROLE OF NANOTECHNOLOGY WITH POLLUTION IN THE ENVIRONMENT

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ABSTRACT (250-300 words)

Background: The coronavirus infectious disease (COVID – 19), which started in late 2019, was found to be caused by the SARS – CoV – 2 virus. The samples collected were from three age categories – below 18, 18 – 49 years and 50 and above. The Delhi government is likely to conduct another sero survey from October 1 to assess the prevalence of antibodies. This virus has already infected hundreds of thousands of people and led to tens of thousands of unclaimed deaths, with the numbers still rising quickly as of this writing, affecting essentially every country whole around the world. Persons infected with SARS – CoV – 2 present with a wide range of symptoms similar to other respiratory infections (*e.g.*, fever, cough, and shortness of breath) or may be silent killer or transporters and carriers. Communal spread of COVID – 19 is a major concern. The availability of a cost – effective, rapid point – of – care diagnostic test available to doctors in emergency rooms, clinics, and community hospitals is critical and highly remarkable issue. These diagnostics enable frontline workers/ worriers to triage patients simply and to prevent further spread of the virus. Unlike convalescent plasma, the supply of monoclonal antibodies isn't dependent on blood donations and can be scaled up to potentially reach more and more people. A single infusion of its monoclonal antibody – a manufactured copy of an antibody produced by a patient who recovered from Covid – 19 treatment – was shown to drastically reduce levels of the coronavirus in newly infected patients and lower the likelihood of requiring hospitalization. The **"Role of Nanotechnology**" community can contribute significantly in the fight against COVID – 19. Nanomaterials have been used for a number of research objectives and targets for the nanotechnology civic the development of point – of – care diagnostics, carriers for therapeutics, and multilevel – model as methodological approach for vaccine development podium/ platform. *"COVID – 19 Negative Effects on Human Beings as Loss of Lives, but Positive Effects on Natural Environment as Increase in Air; Water, Noise and Land Quality on Environmental Part is that* ***"Pollution Levels"*** *has also been Reduced Tremendously".*

Keywords: *COVID – 19; Coronavirus; Health Indicators; Convalescent Plasma; Antibodies; Blood Plasma; Covid Survivors, Isolation; Testing; Antidote; Nanotechnology Materials; Vaccine Development and Pollution Levels (Air, Water, Noise and Land Quality).*

Methods: In a trial of more than 450 newly diagnosed Covid – 19 patients, 5 of 302 patients who received the drug ended up being hospitalized – 1.7%. But 9 of the 150 palliative/ placebo patients ended up in the hospital – 6% – meaning there was a 72% reduced risk of being hospitalized for patients who received the antibody versus those who received a sample placebo. Data were analyzed using a multilevel or multidimensional – modelling approach and it is the first potential treatment for patients with mild or moderate Covid occurrence. (The two other treatments that have proved helpful, the antiviral remdesivir and the steroid dexamethasone, are only for the extremely seriously ill people). Scientists used blood plasma from Covid survivors, isolating and testing their antibodies to find the most powerful ones' antidotes and then manufactured containers/ vats of antibodies to make the drug. Diagnostics are critical in determining the spread of an infection and mass surveillance with rapid diagnostics helps public health officials to monitor virus spread, proactively identify areas with increasing infections, anticipate surge capacity needs, and deploy needed resources to the appropriate areas, regions and places. The success of such a system hinges on clear and transparent collaboration and communications between federal and state/ principal public health laboratories, hospitals, government agencies, NGOs, and other communities. The **"World Health Organization" (WHO)** and others have argued that widespread testing will be needed to stop this pandemic transmissible syndrome.

"World Health Organization" (WHO) and the **"World Meteorological Organization" (WMO),** were appreciated sources for official evidence. Subsequently, by the end of April 2020, the COVID – 19 pandemic has led to plentiful environmental impressions, both positive such as enriched air and water quality in urban areas, and deleterious, such as shoreline pollution due to the discarding of hygienic consumables.

Results: Nearly 33% of Delhi's population – about 6.6 million people – may have developed antibodies against Covid – 19, according to the initial analysis of the third sero survey in which 17,000 samples were collected from 11 districts. Eli Lilly has already started manufacturing 10,000 doses in hopes that these interim results, which have not yet been peer reviewed, will bear out the circumstances. The company plans to discuss the state of the trial with regulators such as the US Food and Drug Administration, as well as the possibility of emergency use authorization to market the drug. Vaccines are instrumental in preventing disease by boosting the immune system against a pathogen. One vaccine being evaluated is a **"messenger RNA" (mRNA)** – **"Lipid Nanoparticle"** vaccine based on the previous studies of SARS – CoV and the **"Middle East Respiratory Syndrome" (MERS)**. Novavax's vaccine, NVX – CoV2373, based on **"Recombinant Protein Nanotechnology" (RPN),** is undergoing late – stage Phase – III trials in the US. The findings of Phase – I study that enrolled 130 healthy volunteers had shown it prompted coronavirus – specific antibodies (anti – spike IgG antibodies) in all volunteers after a single dose, with many of them developing wild – type virus neutralizing antibody; after a second dose, all volunteers developed wild – type virus neutralizing antibody. The **"Serum Institute of India" (SII)** had recently struck a licensing agreement with **"Novavax"** for making its vaccine for India and other low – and middle – income countries.

The development and extent of COVID – 19 under the control of environmental features validate the scientific awareness for the collective revisions of coronaviruses on one side and socio – ecological systems (including the interaction between climate, water, air, noise and soil) on the other side. As a result, coronaviruses in general have been considered to expect their societal and environmental impression. This has instantaneous application to the COVID – 19 virus and furthermore, summarizes relevant knowledge on the causative agent, pathogenesis and immune responses, epidemiology, diagnosis, handling and controlling of the disease, resistor and anticipation approaches of the COVID – 19. From an anthropocentric perspective viewpoint, the pandemic may lead to a more **"Supportable and Sustainable Future",** including increased resilience of the socio – ecological systems or shorter capacity chains, which is a **"Positive Expansion and Growth"**.

Conclusion: Our community has a chance to accelerate the translation of our developments and deploy nanotechnology advances as frontline apparatuses and tools. Those treated with the drug reportedly also had fewer symptoms, and the levels of virus in their bodies fallen/ plummeted. Life as we knew it before this pandemic has been forever altered and in the fight against COVID – 19, research and technology development and deployment are our best weapons. Nanotechnology tools can be adapted to detect, to treat, and to prevent this disease end and **"Nano"** is here to help disseminate contributions and strategies for fighting the COVID – 19 pandemic, which are safer and well competent and there were no serious side effects, Eli Lilly reported. Other companies are also working on treatments with monoclonal antibodies, but they are difficult and expensive to make. The **"Serum Institute of India" (SII),** in partnership with the **"Indian Council of Medical Research" (ICMR),** is likely to start the **"Clinical Trials" (Human Trials)** next month of Covid – 19 vaccine candidate developed by Maryland, US – based Novavax. A single dose could be costly as well. They offer only a temporary solution, with the antibodies lasting about a month. But without a **"Vaccine" (Antidote)** – the only way to elicit a lasting immune response – the treatment could give doctors another weapon in an arsenal with few and adequate options.

The advancements of new specific techniques would be of great interest for controlling the environmental dissemination of coronaviruses, and more precise and extended monitoring would favour the collection of more pertinent information. Early developments with this catastrophe have revealed that monitoring of socio – ecological conditions is critical for an early interpolation to limit the scale of the epidemic and the pandemic hazards. ***"Data, apparatuses, tools and lessons learned may provide significant improvements in preparation to fight potential pandemics in the future".*** The societal and economic measures assumed to contain the pandemic led to local, regional and global impacts, both negative and positive, spanning from immediate to long – term consequences too. The full assessment of the impacts is far from being possible with an ongoing disaster of impressive fraction and fabulous complication, and this paper initiates for numerous guidelines to be tracked by further research. This global crisis has influentially established that the catastrophe research, climate change negotiation and ecosystem services must reconsider their premeditated and incorporated development considering even the most unlikely proceedings. Eventually, the COVID – 19 pandemic will determine philosophical

changes of the social and economic behaviour at the planetary scale, and this study highlights the **"Environmental Measurement"** of the consequential impacts resulting from the evolving pandemic.

BIOGRAPHY (100-150 words)

Dr. Harish Kumar Gupta has expertise in evaluation and passion in improving the people's health and their wellbeing. As an **"Environment and Health Safety Expert" (EHSE)** has exposed and contextual evaluation model based on responsive constructivists creates new pathways for improving healthcare challenges. He has built this model after years of experience in research, evaluation, teaching and administration both in civil engineering and education institutions. The foundation is based on fourth generation evaluation approach, which is a methodology that utilizes the previous generations of evaluation: measurement, description and judgment. It allows for value – assortment pluralism. This approach is responsive to all kind of stakeholders and has a different way of focusing the **"GOALS OR TARGETS"**.

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