

## Lab-based cannabinoids: Moving cannabinoids from proscription to prescription

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### The therapeutic use of Cannabis and Cannabinoids has its deepest roots in India



SARS-CoV-2, a seemingly miniscule virus, has encumbered all walks of life and brought modern civilization to a screeching halt. On the other hand, it has also been a great leveller leaving an impact across the world. This has led to collaborative research as the scientific world united in this war against COVID-19. The direction and focus of research continue to evolve as we learn more about SARS-CoV-2.

The treatment options for COVID-19 are still being assessed for safety and efficacy. So far, it appears that a singular treatment regime may not be possible for COVID-19 infections, as is the case for several diseases. Some molecules are preferentially reserved for compassionate use and in severe cases to mitigate chances of drug resistance. However, treatment options for early administration and mild cases, which would be easy to administer at home without special monitoring, are limited.

Drugs that are affordable, widely available with decades of use, like Hydroxychloroquine and Azithromycin would be great first line options, if not for the lethal side-effects. Some of these side-effects include arrhythmias which could lead to sudden cardiac arrest. Additionally, researchers are learning that Sars-COV-2 may cause arrhythmias as well.

A recent study has uncovered a unique mechanism of action for Cannabidiol (CBD) and how CBD rescues cardiac cells from arrhythmias due to hyperglycemia, potentially preventing sudden cardiac arrest. This leads us to ask the discernable question - could Cannabinoids help save lives that would otherwise be lost due to Cardiac complications of COVID-19?

Cannabinoids are the individual molecules in the Cannabis plant. There are two major Cannabinoids (Cannabidiol - CBD and Tetrahydrocannabinol -THC) and many other minor Cannabinoids, classified as such, based on the amount present in the plant. Cannabinoids, both major and minor, can be created in the lab using Organic Synthesis and Biosynthesis. Lab-based Cannabinoids ensure purity, quality, high yields and overcome challenges associated with growing the plant. It allows the selection of specific Cannabinoids towards treating specific indications.

The adjunct use of CBD, with some antivirals, antimalarials and antibiotics to treat COVID-19, can potentially make these

treatments safer by reducing the lethal side-effects like cardiac arrhythmias. This also makes affordable treatments available with better safety profiles in outpatient setting and early onset of the infection. This in turn could reduce fatalities, hospitalizations, and the burden on healthcare systems. While the world is considering treatment and prevention options for COVID-19, we know that there is merit towards exploring the same with Cannabinoids as well.

The therapeutic use of Cannabis and Cannabinoids has its deepest roots in India, and we strongly believe that India should benefit from its contemporary applications. India, with some of highest numbers of reported COVID-19 infections, would potentially benefit the most from this research.

India is the pharmacy to the world and in alignment with Atmanirbhar Bharat and Make in India initiatives, it is the indisputable choice for manufacturing and export of Cannabinoids and their finished pharmaceuticals. This would make these therapies readily available to both the Indian population and to that of the world with ensured quality and affordability.

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