

AYUSH – DBT Collaboration takes Scientific Research into Covid 19 to advanced levels of sophistication

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The first animal study in India on SARS-CoV-2 virus (the cause of Covid-19) which arose out of a collaboration between Ministry of AYUSH and Department of Bio-Technology (DBT), has moved into its final stages. One among the most sophisticated research projects in the Covid-19 context in the country, this concerns pre-clinical studies on four oral interventions have already been taken up for clinical studies through another collaboration of the Ministry of AYUSH, the partner in this one being the Council for Scientific and Industrial Research (CSIR).

The MoU relating to the animal study (*in-vivo* study) was signed between the National Medicinal Plants Board (NMPB) of the Ministry of AYUSH and the DBT, and is based on the concept of reverse Pharmacology (PH) which explores the scientific reasoning behind established medical practice like those of Ayurveda. This study is being held at the Translational Health Science and Technology Institute (THSTI), an autonomous institute of DBT located in Faridabad. The sophisticated BSL-3 level laboratories of THSTI are housing these studies, which are held on hamsters.

Through this study, the country has registered a land mark in SARS-CoV-2 virus / COVID-19 research, this being India's **first *in-vivo* anti-SARS-CoV-2 virus study using oral interventions**. The first round of experiments has just been completed and the results are awaited. In the meanwhile, the *in-vitro* anti-viral studies have been initiated at Regional Centre for Biotechnology (RCB), Faridabad (a statutory institute of DBT). These studies are expected to complete by 31st January 2021. The findings will provide scientific evidence on the existing oral interventions as well as generate leads on new herbal drugs. Considering that the age-old AYUSH formulations have a high level of adoption among the country's population, Ministry of AYUSH and Department of Bio-Technology (DBT) have together initiated India's first oral intervention study on four selected Ayurvedic formulations at THSTI, Faridabad. These four interventions are Aswagandha, Guduch-Pippali combination, Mulethi and AYUSH-64 (a poly-herbal compound).

It may be recollected that the Prime Minister in his address to the thought leaders of the Ayush Sector on 23rd March, had called for substantial scientific studies on possible Ayush solutions for Covid-19. In response, the Ministry of AYUSH took up a series of steps, including both pre-clinical as well as clinical evaluation of the recipes / formulations against COVID-19 using standard protocols and methodology. An '*Interdisciplinary AYUSH R&D Task Force on COVID-19*' was constituted by Ministry of AYUSH on 2nd April. Initially, the protocols for prophylaxis and empirical use of oral interventions were released. Ministry of AYUSH also initiated some serious clinical studies in collaboration with CSIR, CCRAS (Central Council for Research in Ayurvedic Sciences) and other reputed institutes. The above mentioned four oral interventions are also subjects of randomized clinical trials (Randomized Controlled Trials), and these trials are at advanced stages.

The phase-1 of the *in-vivo* study at THSTI has been completed. Out of the said four interventions, analysis with respect to anti-viral activity of Aswagandha has been completed. The analysis in respect of other three interventions are in progress and the study results are expected to be announced shortly.

The National Medicinal Plants Board and The Central Council for Research in Ayurvedic Sciences with the help of industry partners have developed the trial interventions.

"This is a proud moment for both Ministry of AYUSH and Department of Biotechnology". Vaidya Rajesh Kotecha, Secretary, Ministry of AYUSH said, "that this collaboration is providing land mark research in

India". Dr.Renu Swarup, Secretary of Department of Biotechnology also expressed her satisfaction about the on-going studies on SARS-CoV-2 virus.

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