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NEERI develops saline gargle RT-PCR testing method

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Results will be made available within three hours and suitable for rural and tribal areas



Scientists of Nagpur-based National Environmental Engineering Research Institute (NEERI), under the Council of Scientific and Industrial Research (CSIR), have developed a 'Saline Gargle RT-PCR Method' for testing COVID-19 samples.

The Saline Gargle is simple, fast, cost-effective, patient-friendly and comfortable and offers instant results and is well-suited for rural and tribal areas, given minimal infrastructure requirements. The method is environment-friendly as well since waste generation is minimised.

Dr Krishna Khairnar, Senior Scientist, Environmental Virology Cell, NEERI says, “Swab collection method requires time. Moreover, since it is an invasive technique, it is a bit uncomfortable for patients. Some time is lost also in the transport of the sample to the collection centre. On the other hand, the Saline Gargle RT-PCR method is instant, comfortable and patient-friendly. Sampling is done instantly and results will be generated within three hours.”

"The Saline Gargle RT-PCR method uses a simple collection tube filled with saline solution. The patient gargles the solution and rinses it inside the tube. This sample in the collection tube is taken to the laboratory where it is kept at room temperature, in a special buffer solution prepared by NEERI. An RNA template is produced when this solution is heated, which is further processed for Reverse Transcription Polymerase Chain Reaction (RT-PCR). This particular method of collecting and processing the sample enables us to save on the otherwise costly infrastructural requirement of RNA extraction. People can also test themselves since this method allows self-sampling”, he adds.

Dr Khairnar expects that this innovative testing technique will be especially beneficial for rural and tribal areas where infrastructure requirements can be a constraint. The non-technique has received the approval of the Indian Council of Medical Research (ICMR). NEERI has further been asked to train other testing labs, to help scale up its adoption across the country.

Nagpur Municipal Corporation has permitted to go ahead with the method, following which testing has begun at NEERI, as per approved testing protocol.