Could Saliva Tests Improve Coronavirus Detection?

As a highly contagious and potentially fatal disease that has already claimed the lives of over one million people worldwide, coronavirus must be stopped from spreading among the population. Identifying who is already infected and quarantining them until the virus has been overcome by their immune system is key to limiting its propagation.

Thus far, the gold standard for diagnostic testing has been nasopharyngeal swabbing. However, there has been much speculation that saliva tests could prove to be a faster, simpler and less invasive method of determining whether a patient has the virus or not, with several medical studies supporting the theorem.

Faster, simpler, better

Shortly after the initial outbreak of COVID-19 in Wuhan late last year, the World Health Organisation (WHO) advised that the best way to control the spread of the disease was to "test, test, test." This has prompted governments across the world to invest in sophisticated new methods of testing for the disease, with a nasopharyngeal swab the most common and most accurate technique to date.

Knowing [when is the best time to test for COVID-19](#) is almost as important as the test itself, since this can help to reduce false negatives and identify at-risk individuals more quickly. A well-oiled diagnostics system, coupled with a robust track-and-trace network, allows the authorities to understand who infected individuals have come into contact with and thereby limit the spread of the disease as effectively as possible.

With that in mind, saliva tests have been touted as a viable alternative to nasopharyngeal swabbing. They could be especially effective in a community screening environment, where time and simplicity are of the essence, since large numbers of people must be tested in a short space of time.

Promising results

Several studies support that hypothesis, including one recently published in the UAE. Between the 29th June and the 14th July, 401 patients presenting themselves for COVID testing at a screening facility in Dubai were recruited to participate in the study. As well as collecting saliva samples, those behind the study also obtained

nasopharyngeal swabs in universal transport media (UTM) and clinical data about the patient's medical history for comparison.

They found that 35 of the 401 participants (8.7%) showed signs of infection in at least one of the testing methods, with the majority of those (57.1%) asymptomatic. The infection was confirmed in both methods in 54.2% of the patients, while 20% had positive swabs and negative saliva samples and 25.7% had positive saliva but negative swabs.

Overall, the sensitivity of the saliva sampling was found to be 73.1%, while its specificity was 97.6%. Those findings are in keeping with conclusions reached by other studies and suggest that saliva tests could improve the speed and simplicity of COVID-19 diagnostics, without sacrificing accuracy and simultaneously dispensing with the need to use UTMs.