Saliva testing for Covid-19 being assessed for wider use

Health Ministry looking at factors such as consistency, integrity of sample collection

Cheryl Tan

The use of saliva testing to detect Covid-19 is undergoing trials in Singapore, as the health authorities assessed if this could be used for widespread use.

Responding to queries from The Straits Times, the Ministry of Health (MOH) said on Thursday that it is assessing factors such as consistency and integrity of sample collection, efficiency of laboratory processes and the ability to cope for high volumes of tests if pooled testing is added. That is, saliva samples collected through nasopharyngeal swabs (for the nose) or oropharyngeal swabs (for the throat), which can be pooled, thus allowing for high volumes of tests to be efficiently processed daily.

Preliminary results using saliva Covid-19 test on a group of suspected cases, and if positive, the person will be individually re-tested in the Covid-19 cases.

The MOH added that its preliminary findings showed saliva testing may be “slightly more comfortable for some individuals”, though mechanisms to scale up testing on a larger scale cannot be ruled out.

In a separate letter to other countries to trial saliva testing, Professor Robin Fisher, a senior infectious diseases specialist at the National University Hospital, said: “The lack of consistency in test collection methods may mean that it is difficult to standardise the collection process, in addition to the extra steps needed to process the saliva sample, which could affect the public’s testing capacity.”

“Before the tests can be scaled up, it is important for us to confirm that the saliva is sensitive enough as a sample, and that the labs can manage this very different specimen. However, I am not sure if any country does this on a large scale or collecting saliva, but there would certainly not be a problem.”

Associate Professor Raymond Lim, director of the National Public Health Laboratory at the National Centre for Infectious Diseases, said the centre is aware of the tests being done on saliva testing, all of which arrived at different conclusions, including an earlier study conducted by the centre.

“Overall, this is an emerging technique and we need to understand further study and analysis using a multicenter standardised testing approach with the approval from MOH,” he said.

In a study led by American Professor Phu La Yang, published in the American Journal of Infection Control and co-authored by the National University of Singapore-based National University Hospital, it was shown that saliva testing through secretions taken from the back of the throat can be an effective method for Covid-19 testing.

The study, which has not been peer-reviewed, took place from June 2 to July 26, and was conducted among 200 migrant workers who were vaccinated from community care facilities and dormitories.

They consisted of both confirmed andsuspected cases, including those who were asymptomatic close contacts of confirmed cases, as well as patients who had symptoms of acute respiratory infection.

Tests were done on the patients’ currently nasopharyngeal swabs, saliva samples and self-administered nasopharyngeal swabs – to compare their efficacy.

Other than the saliva test itself, the highest percentage of positive results, suggesting that it may be more sensitive than nasopharyngeal swabs, whereas self-administered nasopharyngeal swabs were the least sensitive. As the swabs were self-administered, it is likely that they reached only the back of the nasopharynx, which has a lower viral load, rendering poor results.

When asked about the possibility of false positive results leading to false negatives, Professor Tan said that the government is working closely with the health authorities, as they occur in rainfall testing, bordering on sensitive living conditions and climate factors.