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Saliva samples as an alternative for novel coronavirus (COVID-19) diagnosis



Cheng et al.¹ reported the first case of novel coronavirus pneumonia (COVID-19) in Taiwan. They mentioned that oropharyngeal and sputum swabs were used for diagnosis of this viral infection. Later they mentioned that they used urine and stool samples to check if the patient had recovered.² Currently the diagnosis of COVID-19 is made based on the throat swabs. This sampling method is invasive and may cause sneezing in the patient and also cause some danger for the test takers. Furthermore, throat swab might be uncomfortable for the patient as it might cause bleeding.³

All cells that express surface receptor angiotensin-converting enzyme II (ACE2) receptor are susceptible to COVID-19. Salivary gland express ACE2 receptor, so potentially can be a target for COVID-19.³ Although the reports about the accuracy of the screening properties of saliva for COVID-19 is still scarce, there have been some reports in which saliva has been considered as an alternative for diagnosis of COVID-19.^{4–7}

Williams et al.,⁸ investigated the feasibility of using saliva specimens for detecting COVID-19 in the patients. In their study, 622 patients underwent COVID-19 test by using patient's saliva specimens and nasopharyngeal swabs at the same time for comparison. Among all patients, 39 patients had positive tests based on nasopharyngeal samples. Interestingly COVID-19 was detected in the saliva of 33 patients, leaving behind only 2 cases undetected. Keeping in mind that the nasopharyngeal swabs are also not very sensitive for the detection of COVID-19,⁹ the accuracy of saliva is comparable with the conventional nasopharyngeal sampling method. Use of saliva samples, which are safer and more convenient for the patient and test taker can be considered an alternative for diagnosis of COVID-19.

Declaration of Competing Interest

The authors have no conflicts of interest relevant to this article.

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Javad Alizargar*

*Research Center for Healthcare Industry Innovation,
National Taipei University of Nursing and Health Sciences,
Taipei City, 112, Taiwan*

Milad Etemadi Sh

*Department of Oral and Maxillofacial Surgery, Dental
Implants Research Center, Dental Research Institute,
School of Dentistry, Isfahan University of Medical Sciences,
Isfahan, Iran*

Mehdi Aghamohammadi

*Department of Internal Medicine, Vali-e-asr Hospital,
School of Medicine, Zanzan University of Medical Sciences,
Zanzan, Iran*

Shahrokh Hatefi

*Precision Engineering Laboratory, Nelson Mandela
University, Port Elizabeth, South Africa*

*Corresponding author.

E-mail address: jaz.tmu@gmail.com (J. Alizargar)

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