Received: 3 April 2020 | Revised: 11 April 2020 | Accepted: 11 April 2020

DOI: 10.1111/odi.13361

LETTER TO THE EDITOR

ORAL DISEASES WILEY

Strategies for prevention of coronavirus disease 2019 in the dental field

The coronavirus disease 2019 (COVID-19) pandemic, which began in Wuhan, China in December 2019, has become a huge public health issue in China and worldwide, spanning across Asia, including South Korea, Europe, North America, South America, and Oceania (Phelan, Katz, & Gostin, 2020). The fatality rate is 0.2 deaths per 100,000 persons per week globally. On March 11, 2020, the World Health Organization declared COVID-19 outbreak a pandemic of international concern.

The COVID-19 outbreak started with animal-to-human transmissions, followed by sustained human-to-human transmissions (Del Rio & Malani, 2020). The 2019 novel coronavirus (2019-nCoV) predominantly spreads among humans via respiratory droplets and contact routes (Chan et al., 2020;Li et al., 2020). 2019-nCoV also can infect or enter the body through the conjunctiva via aerosol exposure or hand-to-eye contact (Guan et al., 2020). Furthermore, live 2019-nCoV in saliva was detected in over 90% of patients (To et al., 2020). According to the latest update, 2019-nCoV can be transmitted via aerosols because it can remain viable and infectious in aerosols for several hours and on surfaces for days (van Doremalen et al., 2020). Aerosol transmission might be associated with the pandemic nature of the disease and the super rapid-spreading event. Since no definitive drugs or vaccines have been approved by the Food and Drug Administration for COVID-19, prevention may be the only plausible strategy for management.

How should the dental field set strategies to recognize and respond to information on mitigation or prevention of COVID-19? Based on the potential transmission pathway of 2019-nCoV, we present the following. First, routine prechecking of the general health status and travel history to epidemic areas is needed (Guo et al., 2020). We recommend that patients with suspected or known COVID-19 be isolated or postpone their non-emergency dental care during the COVID-19 pandemic. Second, the use of basic personal protective equipment is recommended for treating asymptomatic potential carriers. During dental procedures, gowns, face shields, masks, goggles for eye protection, and gloves must be worn, and hand washing is essential (Peng et al., 2020). Furthermore, as dental procedures commonly produce abundant saliva, droplets, and aerosols, dental professionals must avoid or minimize procedures that can produce droplets or aerosols or stimulate salivary secretion or coughing. The use of high-volume saliva ejectors with the four-handed technique, minimization of the use of the three-way syringe, acquisition of extraoral radiographs rather than intraoral radiographs, and the use of oxidative or antimicrobial mouth rinse before dental procedures might be helpful. Treatment in an isolated and well-ventilated environment is recommended, and environmental cleaning is strongly recommended after dental procedures. Finally, as viruses are viable on surfaces for several days, disinfecting the surface of equipment with 62%–71% ethanol before and after dental procedures is recommended (Baseer et al., 2016).

The COVID-19 pandemic is still progressing. The abovementioned routine procedures and precautions are easy, cost-effective, and enforceable. The efforts to prevent the spread of the 2019-nCoV in the dental field along with the efforts of the population, healthcare workers, scientists, researchers, and governments will significantly help combat this pandemic. We will continue to identify infectious threats that can change the current infection control protocols.

ACKNOWLEDGEMENTS

None.

CONFLICTS OF INTEREST

The authors declare no conflict of interest.

AUTHOR CONTRIBUTIONS

Yeon-Hee Lee: Conceptualization; Investigation; Methodology; Project administration; Resources; Supervision; Writing – original draft; Writing – review & editing. **Q-Schick Auh:** Investigation; Writing – review & editing.

Yeon-Hee Lee
Q-Schick Auh

Department of Orofacial Pain and Oral Medicine, Kyung Hee University Dental Hospital, Seoul, Korea

Correspondence
Yeon-Hee Lee, Department of Orofacial Pain and Oral Medicine, Kyung Hee University Dental Hospital, #26 Kyunghee-daero, Dongdaemun-gu, Seoul 02447, Korea.
Email: omod0209@gmail.com

ORCID

Yeon-Hee Lee https://orcid.org/0000-0001-7323-0411
Q-Schick Auh https://orcid.org/0000-0002-5570-326X

The peer review history for this article is available at https://publons.com/publon/10.1111/odi.13361

REFERENCES

Baseer, M.-A., Ansari, S.-H., AlShamrani, S.-S., Alakras, A.-R., Mahrous, R., & Alenazi, A.-M. (2016). Awareness of droplet and airborne isolation precautions among dental health professionals during the outbreak of corona virus infection in Riyadh city, Saudi Arabia. *Journal of Clinical and Experimental Dentistry*, *8*(4), e379–e387. https://doi.org/10.4317/jced.52811

Chan, J.-W., Yuan, S., Kok, K.-H., To, K.-W., Chu, H., Yang, J., … Yuen, K.-Y. (2020). A familial cluster of pneumonia associated with the 2019 novel coronavirus indicating person-to-person transmission: A study of a family cluster. *Lancet*, *395*(10223), 514–523. https://doi.org/10.1016/s0140-6736(20)30154-9

Del Rio, C., & Malani, P. N. (2020). 2019 Novel Coronavirus-Important Information for Clinicians. *JAMA*, https://doi.org/10.1001/jama.2020.1490

Guan, W.-J., Ni, Z.-Y., Hu, Y., Liang, W.-H., Ou, C.-Q., He, J.-X., … Zhong, N.-S. (2020). Clinical characteristics of coronavirus disease 2019 in China. *New England Journal of Medicine*, https://doi.org/10.1056/NEJMoa2002032

Guo, Y.-R., Cao, Q.-D., Hong, Z.-S., Tan, Y.-Y., Chen, S.-D., Jin, H.-J., … Yan, Y. (2020). The origin, transmission and clinical therapies on coronavirus disease 2019 (COVID-19) outbreak - an update on the status. *Military Medical Research*, *7*(1), https://doi.org/10.1186/s40779-020-00240-0

Li, Q., Guan, X., Wu, P., Wang, X., Zhou, L., Tong, Y., … Feng, Z. (2020). Early transmission dynamics in Wuhan, China, of novel coronavirus-infected pneumonia. *New England Journal of Medicine*, *382*(13), 1199–1207. https://doi.org/10.1056/NEJMoa2001316

Peng, X., Xu, X., Li, Y., Cheng, L., Zhou, X., & Ren, B. (2020). Transmission routes of 2019-nCoV and controls in dental practice. *International Journal of Oral Science*, *12*(1), 9–9. https://doi.org/10.1038/s41368-020-0075-9

Phelan, A. L., Katz, R., & Gostin, L. O. (2020). The novel coronavirus originating in Wuhan, China: Challenges for global health governance. *JAMA*, *323*(8), 709–710. https://doi.org/10.1001/jama.2020.1097

To, K.-W., Tsang, O.-Y., Yip, C.-Y., Chan, K.-H., Wu, T.-C., Chan, J.-C., … Yuen, K.-Y. (2020). Consistent detection of 2019 novel coronavirus in saliva. *Clinical Infectious Diseases*, https://doi.org/10.1093/cid/ciaa149

van Doremalen, N., Bushmaker, T., Morris, D. H., Holbrook, M. G., Gamble, A., Williamson, B. N., … Munster, V. J. (2020). Aerosol and surface stability of SARS-CoV-2 as compared with SARS-CoV-1. *New England Journal of Medicine*, https://doi.org/10.1056/NEJMc2004973