Commonsensical public health measures prevail over transient health recommendations during COVID-19

Based on the experiences within the past year of COVID-19, three public health measures have prevailed in the reduction of the spread of COVID-19: social distancing, masking, and frequent hand washing with soap. How hard can they be? These commonsensical practices are the only ones that people depend on until a vaccine is developed or a definitive treatment is identified. A vaccine for COVID-19 is not currently available internationally, although globally there have been rapid developments to create them. Vaccine development appears promising because SARS-CoV-2 uses the same receptor as SARS-CoV on the host cell, human angiotensin converting enzyme (hACE2).[1] This is genetically very similar to SARS-CoV. Dental practice during COVID-19 has morphed into a chaotic, often confusing barrage of recommendations from not only federal regulatory agencies such as Centers for Disease Control (CDC), the Food and Drug and Administration(FDA), Occupational Safety and Health Administration (OSHA), and, globally, the World Health Organization (WHO), but also from state, county, and municipal agencies. Although intended for better dissemination of information, multi-agency recommendations lead to confusion during emergencies. The COVID-19 pandemic is no exception. In the USA, State Health Departments under the direction of the governors gave mandates to protect the public and made recommendations for health professionals to conduct business in a safe and conducive way for the benefit of patients in need of dental treatment.[2]

Specific to dental practitioners, the CDC's guidance regarding dental practice settings, "the interim infection prevention and control guidance for dental settings during the coronavirus disease 2019 (COVID-19) pandemic,"[3] was issued to all dental health care personnel (DHCP) and the recommendations have been scientifically valid and useful. But then again, we have seen recommendations continually change when there was no solid evidence for the recommendations nor any definitive evidence; the aerosol prevention mechanisms, use of high-efficiency particulate air (HEPA) filters, use of UV-C light as a disinfectant, special high power suction devices[4] all have been recommended in trepidation to eliminate the virus and to protect the dental health care provider[5,6] or the patient, either of whom may be a carrier. Health Departments have the obligation to protect the health of patients in their jurisdictions. Ultimately, what has prevailed is common sense. As COVID-19 lingers on, the best way we can manage the pandemic is to take precautions that have proven to be useful: wearing an appropriate mask, wearing personal protective equipment during patient care, washing hands frequently, and social distancing when not treating a patient.

Several multinational pharmaceutical companies are already at phase 3 trials. It was reported that Russia's Sputnik-V vaccine entered phase 2 and 3 trials recently. Another example is the development of stabilized SARS-CoV-2 spike immunogen (S-2P) by the scientists at the National Institutes of Health (NIH), specifically at the National Institute of Allergy and Infectious Diseases (NIAID). The spike protein on the surface of SARS-CoV-2 virus that causes COVID-19 facilitates the entry of virus into a cell. Moderna Therapeutics, an American biotech company, developed the mRNA-1273 (messenger RNA) delivery platform to encode for an S-2P immunogen. This investigational vaccine directs the body cells to express the spike protein to elicit a broad immune response. Moderna reported recently that its COVID-19 vaccine is 94.5% effective in the first data from the phase 3 trial.[7] Similar success was announced in early November 2020 by US-based companies Pfizer and BioNTech. The vaccine they developed was found to be more than 90% effective in preventing COVID-19 based on the data derived from their phase 3 trials.[8]

Until the vaccines preventing COVID-19 are widely available for everyone globally, we must continue the commonsensical public health measures.

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References

1. Kaur SP, Gupta V. COVID-19 vaccine: a comprehensive status report. Virus Res 2020;198114.

2. Commonwealth of Pennsylvania. Dental practice guidance. https://www.media.pa.gov/pages/Health-details.aspx?newsid=800. Accessed 17 August 2020.

3. Centers for Disease Control. https://www.cdc.gov/coronavirus/2019-ncov/hcp/dental-settings.html. Accessed 17 August 2020.

4 Mupparapu M. Editorial: Aerosol reduction urgency in post-COVID-19 dental practice. Quintessence Int 2020;51:525–526.

5. Mupparapu M. Editorial: Dental practitioners' role in the assessment and containment of coronavirus disease (COVID-19): Evolving recommendations from the Centers for Disease Control. Quintessence Int 2020;51:349–350.

6. Abramovitz I, Palmon A, Levy D, et al. Dental care during the coronavirus disease 2019 (COVID-19) outbreak: operatory considerations and clinical aspects. Quintessence Int 2020;51:418–429.

7. National Institutes of Health. Promising interim results from clinical trial of NIH-Moderna COVID-19 vaccine. https://www.nih.gov/news-events/news-releases/promising-interim-results-clinical-trial-nih-moderna-covid-19-vaccine. Accessed 16 November 2020.

8. Pfizer/BioNTech. Pfizer and BioNTech announce vaccine candidate against COVID-19 achieved success in first interim analysis from Phase 3 study. https://www.pfizer.com/news/press-release/press-release-detail/pfizer-and-biontech-announce-vaccine-candidate-against. Accessed 16 November 2020.

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