

LETTER TO THE EDITOR

The alarming burden of non-communicable diseases in COVID-19 new normal: Implications on oral health

Dear Editor,

The coronavirus disease (COVID-19) outbreak has triggered massive debates within dental professional organizations about prioritization of offered services, served groups and required protective measures (Volgenant, Persoon, de Ruijter, & de Soet, 2020). While navigating through the post-outbreak era, we aim to demonstrate the importance of continuous global focus on the burden of non-communicable diseases (NCDs) such as oral diseases. Oral diseases are the most prevalent NCDs worldwide consuming one-fifth of out-of-pocket health expenditure and being recognized as the third most expensive condition to treat in Europe (Peres et al., 2019). The World Health Organization (WHO) recommends prioritizing common risk factor approaches in all interventions targeting NCDs in order to draw attention to the multifaceted relationship between oral diseases and chronic conditions like diabetes, cardiovascular disease, and cancers (Sheiham & Watt, 2000).

NCDs have been recognized for long as the leading cause of mortality and disability worldwide; in addition, they are highly associated with the severity and fatality rates of COVID-19 indicating that prevention and control of NCDs are integral parts of the COVID-19 response. Unfortunately, the NCDs burden is predicted to rise in the next period due to the paradigm in prioritizing COVID-19 over NCDs (Kluge et al., 2020). However being inevitable, non-pharmacologic interventions impose unprecedented risks to people living with NCDs. Physical distancing can enhance behavioral risk factors like smoking and physical sedentary. Reorientation of national health budgets will negatively impact the continuity of palliative care due to decreased supply of essential medicines and technologies and restricted access to healthcare workers. This increase in the levels of NCDs will create a vicious circle between the two pandemics—the NCDs and COVID-19—thus exacerbating health inequities (Kluge et al., 2020).

Besides the bidirectional relationship between periodontitis and diabetes, periodontal diseases are the risk factor of lung diseases, including chronic obstructive pulmonary disease (COPD). Periodontitis is strongly linked to hypertension with an array of pathophysiologic mechanisms, including pro-inflammatory cytokines. Chronic inflammation is recently suggested as the common factor in both periodontitis and cancers (Cullinan, Ford, & Seymour, 2009; Yao, Zhou, Peng, Ji, & Liu, 2014).

Oral diseases and major NCDs share common etiological factors, chronicity mechanisms, and control requirements, implying that the burden of oral diseases may unprecedentedly increase. A recent Cochrane review revealed that access to elective dental care may be substantially restricted during the COVID-19 “New Normal” period. This global ban on elective dental procedures will have a strong impact on public oral health, and patients’ oral health-related quality of life (COVID-19 Dental Services Evidence Review Working Group, 2020). The immediate increase in stress and anxiety levels in response to the COVID-19 outbreak, especially in patients with NCDs, can deteriorate adherence to health-promoting behaviors, including oral hygiene (Horenstein, Potter, & Heimberg, 2018). Public apprehension of infection may contribute to resistance to dental treatment, which in turn will increase the levels of dental anxiety (González-Olmo, Ortega-Martínez, Delgado-Ramos, Romero-Maroto, & Carrillo-Díaz, 2020). As pandemics hit the lower socio-economic groups the most, the financial recession will restrain millions of people from seeking dental treatments, including emergency interventions.

To conclude, the burden of oral disease should be adequately investigated during the next months in order to avoid a surging demand for dental care that may collapse our limitedly operating facilities. Oral health promotion programs and tele-dentistry applications are now needed more than ever to stabilize the curve of oral diseases.

KEYWORDS

COVID-19, non-communicable diseases, oral health, oral hygiene

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

AUTHOR CONTRIBUTION

Abanoub Riad: Conceptualization; Writing-original draft; Writing-review & editing. **Michela Boccuzzi:** Conceptualization; Writing-original draft. **Ave Pold:** Conceptualization; Writing-review & editing. **Martin Krsek:** Supervision; Writing-review & editing.

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REFERENCES

- COVID-19 Dental Services Evidence Review Working Group C (2020). *Recommendations for the re-opening of dental services: a rapid review of international sources*. Cochrane Oral Health Group. https://oralhealth.cochrane.org/sites/oralhealth.cochrane.org/files/public/uploads/covid19_dental_review_16_may_2020_update.pdf
- Cullinan, M. P., Ford, P. J., & Seymour, G. J. (2009). Periodontal disease and systemic health: current status. *Australian Dental Journal*, 54, S62–S69. <https://doi.org/10.1111/j.1834-7819.2009.01144.x>
- González-Olmo, M. J., Ortega-Martínez, A. R., Delgado-Ramos, B., Romero-Maroto, M., & Carrillo-Díaz, M. (2020). Perceived vulnerability to Coronavirus infection: Impact on dental practice. *Brazilian Oral Research*, 34, e044. <https://doi.org/10.1590/1807-3107bor-2020.vol34.0044>
- Horenstein, A., Potter, C., & Heimberg, R. (2018). How does anxiety sensitivity increase risk of chronic medical conditions? *Clinical Psychology: Science and Practice*, 25(3), e12248. <https://doi.org/10.1111/cpsp.2018.25.issue-3>
- Kluge, H. H. P., Wickramasinghe, K., Rippin, H. L., Mendes, R., Peters, D. H., Kontsevaya, A., & Breda, J. (2020). Prevention and control of non-communicable diseases in the COVID-19 response. *The Lancet*, 395(10238), 1678–1680. [https://doi.org/10.1016/S0140-6736\(20\)31067-9](https://doi.org/10.1016/S0140-6736(20)31067-9)
- Peres, M. A., Macpherson, L. M. D., Weyant, R. J., Daly, B., Venturelli, R., Mathur, M. R., ...Watt, R. G. (2019). Oral diseases: a global public health challenge. *The Lancet*, 394(10194), 249–260. [https://doi.org/10.1016/S0140-6736\(19\)31146-8](https://doi.org/10.1016/S0140-6736(19)31146-8)
- Sheiham, A., & Watt, R. G. (2000). The common risk factor approach: A rational basis for promoting oral health. *Community Dentistry and Oral Epidemiology*, 28(6), 399–406. <https://doi.org/10.1034/j.1600-0528.2000.028006399.x>
- Volgenant, C. M. C., Persoon, I. F., de Ruijter, R. A. G., & de Soet, J. J. (2020). Infection control in dental health care during and after the SARS-CoV-2 outbreak. *Oral Diseases*. <https://doi.org/10.1111/odi.13408>
- Yao, Q. W., Zhou, D. S., Peng, H. J., Ji, P., & Liu, D. S. (2014). Association of periodontal disease with oral cancer: A meta-analysis. *Tumor Biology*, 35(7), 7073–7077. <https://doi.org/10.1007/s13277-014-1951-8>