COVID-19 and Paediatric Dentistry after the lockdown

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Editor In Chief
European Journal of Paediatric Dentistry

DOI: 10.23804/ejpd.2020.21.02.01

editorial

Coronaviruses are a large family of respiratory RNA viruses that can cause severe infections of the airways, as we have seen in the past, difficult months.
We know that the route of transmission of the disease is through saliva droplets produced by speaking, coughing and sneezing. The virus is highly infectious, and each infected individual infects 2.5 people on average. The average incubation period is about 5 days, with an estimated range from 2 to 14 days; the incubation period in children is similar, however some have exhibited a longer incubation. The virus binds to the cellular receptor ACE2, which in children has a structural and functional immaturity thus offering lower affinity to the pathogen; this could explain the lower incidence of infection from SARS-CoV-2 in this segment of the population.
The common clinical observation is that COVID-19 is less severe in children, and in this group the disease is often asymptomatic.
Pending further clinical studies able to clarify the infection and transmission dynamics, it is therefore important to apply also in children all preventive and hygiene measures recommended by the health authorities during dental treatment.
We should avoid procedures that generate aerosols as much as possible, minimising the use of the air syringe.
When possible, it is recommended to employ minimally invasive procedures and ART (Atraumatic Restorative Treatment). The latter is a technique that can also be employed in very young and uncooperative patients with widespread carious lesions, in order to avoid more invasive and complex procedures.
Ozone therapy could be of great help in the control of the progression of the asymptomatic carious lesions, especially during the Phase 2 of reopening, when we should to minimise the use of rotating instruments producing aerosols.
The above introduces a new concept of "no aerosol" that will possibly guide our therapeutic choices not only in the immediate future but also in the long term, opening scenarios of prevention and cure that are more efficient, safe, and sustainable.
During procedures that generate aerosols, the use of proper PPE is crucial to minimise the risk of transmission. It is also strongly recommended to work with an assistant, and to use double suction and a rubber dam.
We will have to rethink and review the schedule of daily activities, in terms of timing and mode of delivery of care, on the basis of an agenda which can be divided into "no aerosol" and "aerosol" procedures, and "virtual visits" (including management of true emergencies), creating a virtuous optimisation of care for the safety of operators and office staff, as discussed in an article published on this very EJPD issue. In the coming months we will perhaps deliver more "patient-oriented" than "tooth-oriented" treatments, and this is true not only for young patients!

Recommended readings

› Dong Y, Mo X, Hu Y, et al. Epidemiological characteristics of 2143 pediatric patients with 2019 coronavirus disease in China. Pediatrics 2020; doi: 10.1542/peds.2020-0702
› Liu W, Zhang Q, Chen J, Xiang R, Song H, Shu S, Chen L, Liang L, Zhou J, You L, Wu P, Zhang B, Lu Y, Xia L, Huang L, Yang Y, Liu F, Semple MG, Cowling BJ, Lan K, Sun Z, Yu H, Liu Y. Detection of Covid-19 in Children in Early January 2020 in Wuhan, China. N Engl J Med 2020 Apr 2;382(14):1370-1371.
› Lu X, Zhang L, Du H, Zhang J, Li YY, Qu J, Zhang W, Wang Y, Bao S, Li Y, Wu C, Liu H, Liu D, Shao J, Peng X, Yang Y, Liu Z, Xiang Y, Zhang F, Silva RM, Pinkerton KE, Shen K, Xiao H, Xu S, Wong GWK; Chinese Pediatric Novel Coronavirus Study Team. SARS-CoV-2 Infection in Children. N Engl J Med 2020 Apr 23;382(17):1663-1665.