

The practice of pediatric dentistry after the COVID-19 pandemic



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ABSTRACT

The global spread of Severe Acute Respiratory Syndrome (SARS) caused by the SARS-CoV-2 virus has had a wide-ranging impact on dental practice worldwide. Given this scenario, this study proposed to conduct a literature review, addressing the current evidence regarding biosafety practices

and clinical recommendations associated with the return to elective dental care in the specialty of Pediatric Dentistry, especially in the post-pandemic context of COVID-19. The imminence of significant changes in dental practices is undeniable, ranging from aspects related to biosafety to specific technical procedures. The intensification in the use of Personal Protective Equipment, although crucial for the safety of professionals, can generate discomfort and strangeness, especially among children. Therefore, improved attention to the management of patient behavior, both before and during treatment, becomes imperative. In this context, the search for new approaches that suit the needs and peculiarities of Pediatric Dentistry is an emerging demand. The advent of non-aerosolizing techniques and the preference for minimally invasive procedures emerge as promising strategies, aiming to mitigate potential risks of virus transmission and provide a safer dental environment. This context imposes on professionals in the area the need for constant updating, in line with the recommendations of the scientific literature, to ensure the efficacy and safety of the procedures adopted.

Keywords: COVID-19, Pediatric dentistry, Management, Clinical.

1 INTRODUCTION

The first half of 2020 was marked by the rapid spread of the novel coronavirus around the world. This virus causes Severe Acute Respiratory Syndrome 2 (SARS-CoV-2). Human-to-human transmission of SARS-CoV-2 has been characterized by airborne droplets or direct contact with contaminated objects and surfaces (LUZZI *et al.*, 2021). While the entire world is working to stop the viral spread, the outbreak has not yet been contained. The death toll is still a harrowing reality. Given the widespread transmission of the novel coronavirus, healthcare workers are at high risk of contracting the infection and becoming potential carriers of the disease (ACHMAD *et al.*, 2020; BAHRAMIAN *et al.*, 2020; LUZZI *et al.*, 2021).



The impact of this infection on dental practice has been very strong. Dentistry is classified in a high-risk category of exposure, due to the possibility of exposure to disseminated biological infectious materials such as droplets and aerosols, in addition to the high viral load present in the upper airways and saliva, as well as the close proximity to the patient's oral cavity (AMORIM *et al.*, 2020; PAGLIA, 2020; LUZZI *et al.*, 2021). This situation is further aggravated when treating children and adolescents. Recent studies have shown that most children remain asymptomatic despite having contracted the disease and can contribute significantly to transmission (ILYAS *et al.*, 2020).

In view of the aforementioned information, this study aimed to conduct a literature review on the available evidence related to pediatric dental practice, addressing biosafety and clinical recommendations, in order to guide pediatric dentists regarding post-COVID-19 dental approaches.

2 MATERIALS AND METHODS

This study consists of a literature review, using articles from the following databases: Scientific Electronic Library Online (SCIELO), Latin American and Caribbean Health Sciences Literature (LILACS), Brazilian Bibliography of Dentistry (BBO), Google Scholar and National Library of Medicine (PUBMED/Medline). The descriptors used were "Dentistry", "Pediatric dentistry", "clinics" and "COVID-19".

3 LITERATURE REVIEW

3.1 CLINICAL PROTOCOLS

In order to mitigate the risk of transmission of the virus, the American Dental Association has developed guidelines to classify dental procedures as emergency, urgent and non-urgent, or routine (AL-HALABI *et al.*, 2020). Dental situations that may pose potential threats to life and require immediate treatment are considered emergencies, such as hemorrhages, dental trauma, and cellulitis that compromise the patient's airway. Dental problems that are not life-threatening but cause pain or localized cellulitis are classified as urgent (AL-HALABI *et al.*, 2020; KOCHHAR *et al.*, 2020).

Although some countries have restricted dental care to emergency procedures only, adopting teledentistry as an alternative to face-to-face care, caregivers should inform in advance, during the virtual consultation, if the child has been sick and has a fever in the last 24 hours, in addition to receiving guidance on the use of a face mask on the day of the consultation (BRECHER *et al.*, 2021; WALLACE *et al.*, 2021).

3.2 BIOSECURITY

In the context of a gradual and scheduled return to activities, dental professionals and their teams face the need to redouble care in the appropriate use of Personal Protective Equipment, aiming



to minimize the risk of contamination and cross-infection during care (SALES *et al.*, 2021; MIGUITA *et al.*, 2022). Continuous updating of knowledge and skills related to infection control, as well as adherence to established protocols, become imperative in this scenario. Considering the incubation period of the virus, the asymptomatic manifestation in children, and the presence of mild and nonspecific symptoms, all patients and caregivers are potentially considered carriers of COVID-19 (SOARES *et al.*, 2021).

It is crucial to implement administrative, educational, and preventive training measures to prevent the spread of infection. Intervals between appointments should be extended, and it is essential that both patients and dentists strictly adhere to scheduled times (SULTAN *et al.* 2020). This time extension is critical for the complete execution of dental office disinfection guidelines, avoiding crowding in the waiting room. The use of face masks by patients and caregivers is essential, and it is essential to easily provide sinks with soap and water, as well as hand sanitizer (70% alcohol gel) (SALES *et al.*, 2021). Strict adherence to practices such as hand washing, proper use of Personal Protective Equipment, sterilization of instruments, proper waste disposal, and safe anesthesia practices is essential (FACCINI *et al.*, 2020; SULTAN *et al.* 2020).

3.3 CLINICAL PRACTICE AND DENTAL PROCEDURES

Due to the huge variety of situations that can present themselves in dental offices, it is difficult to provide specific recommendations for each of them. Dentists should rely on their clinical judgment, taking into account the severity of symptoms, possible alternative procedures that may provide relief, and the quality of protective equipment available (WRIGHT *et al.*, 2016; SOARES *et al.*, 2021).

Aerosol-generating procedures and the use of air syringes should be avoided whenever possible in order to reduce cross-contamination during treatment (WRIGHT *et al.*, 2016). When the use of high-speed drills is necessary, prior mouth rinsing or gauze impregnated with substances capable of reducing the infectious load of SARS-CoV-2 is strongly recommended, in addition to the use of a rubber sheet. Therefore, non-invasive treatments and minimally invasive procedures are desirable (ISMAIL & BADER, 2004).

3.4 BEHAVIOR MANAGEMENT

Behavior management in pediatric patients is crucial in situations of fear, anxiety, and pain during dental treatments. Calm children disperse fewer aerosols, while the additional anxiety caused by improved Personal Protective Equipment protocols should be considered (ACHARYA, 2020; MEGHPARA *et al.*, 2022). It is beneficial to put on Personal Protective Equipment while the child observes, explaining its value in a simple way. In addition, strategies such as having the child dress



like the dental team can reduce fear, and prior communication with families, highlighting changes in the office environment, is of paramount importance (AISHWARYA, 2023).

Amid the challenges of dealing with children, pharmacological behavioral management techniques such as inhalation sedation may be necessary (ACHARYA, 2020). It is crucial to recognize that social isolation can have physical and psychological consequences in children, requiring redoubled efforts from parents, psychologists, and teachers to maintain the well-being of these young people during the pandemic, as studies indicate higher levels of post-traumatic stress in children in quarantine situations (LUO *et al.*, 2021).

4 CONCLUSION

In the practice of Pediatric Dentistry, it is essential to take a comprehensive and explanatory approach when explaining the need for the practitioner to dress in a way that may not be readily recognized by the child. Whenever possible, it is preferable to use non-aerosol-generating techniques and minimally invasive procedures. This is a good time to implement preventive and technical practices that cause as little discomfort as possible. Due to the constantly evolving scientific discoveries, professionals must remain vigilant and up-to-date, basing their practices on the best available scientific evidence.



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