

Dentistry During the COVID-19 Pandemic: Integrative Review and Proposed Protocol for the Rio de Janeiro State Military Police Dental Care Units

Adriane Batista Pires Maia,¹ Vanessa Paiva Reis,² Adriana Raymundo Bezerra,³ Danielle Castex Conde⁴

¹Oral Maxillofacial Surgery and Traumatology Service, Military Police Central Hospital (Hospital Central da Polícia Militar), Rio de Janeiro State Military Police, Rio de Janeiro, RJ, Brazil

²Oral Maxillofacial Surgery and Traumatology Service, Military Police Polyclinic of Cascadura (Policlínica da Polícia Militar de Cascadura), Rio de Janeiro State Military Police, Rio de Janeiro, RJ, Brazil

³Oral Maxillofacial Surgery and Traumatology Service, Military Police Central Dental Clinic (Odontoclínica Central da Polícia Militar), Rio de Janeiro State Military Police, Rio de Janeiro, RJ, Brazil

⁴Oral Maxillofacial Surgery and Traumatology Service and Anatomical Pathology Service, Military Police Central Hospital (Hospital Central da Polícia Militar), Rio de Janeiro State Military Police, Rio de Janeiro, RJ, Brazil

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ABSTRACT

Objective: to collate the literature that contains recommendations, best practices, and infection control measures for dental health care during the COVID-19 pandemic and, based on this evidence, to propose a protocol for use at the Rio de Janeiro State Military Police dental health care units. **Materials and Methods:** search of the regional VHL Network Portal, Web of Science, and Pubmed databases using the search query ("covid19" AND "dentistry") to retrieve studies published in 2019 and 2020. After applying the inclusion and exclusion criteria, 18 were found to be eligible for the review. **Results:** from the scientific evidence reported in the retrieved documents, an infection control protocol was proposed for use at the Rio de Janeiro State Military Police dental care units, which could be applied to any dental health setting. **Conclusion:** while the epidemic continues, only urgent and emergency dental care should be provided. The dental surgeon should adopt enhanced biosecurity measures, namely: rigorous hand sanitizing with soap and water and/or 70% alcohol hand sanitizer; correct use of complete personal protective equipment (PPE), and discarding of PPE after each patient; allowing three hours to elapse between patients after aerosol-generating procedures; cleaning of all surfaces with 0.1% sodium hypochlorite or 70% ethanol; sterilization of all instruments; and adequate disposal of all waste.

Keywords: COVID-19; Coronavirus; Dentistry; Biosecurity; Epidemic.

Introduction

On January 8, 2020, the Chinese Center for Disease Control and Prevention officially announced a new coronavirus as the etiological agent of a new respiratory disease in humans.¹ The epidemic began on December 31, 2019, in the Chinese city of Wuhan, Hubei province, from which the infection spread rapidly across the world. On January 30, 2020, the World Health Organization classified the epidemic as a public health emergency of international concern² and on March 11, 2020, it officially declared a SARS-CoV-2 pandemic. The first case in Brazil was reported on February 26, 2020; by March 20, 2020, community transmission in the country was confirmed.³ Since then, this new reality has had a powerful impact on the whole structure of human relations and the economy, and is posing health professionals with their biggest public health challenge in the last hundred years.⁴

In view of their proximity to the face and exposure to saliva, blood, and other bodily fluids, dental surgeons are at high risk of exposure to infection by SARS-CoV-2, coming at the top of the list of professionals with the highest

occupational risk.⁵ Similarly, the military police (*In Brazil, the military police are the armed uniformed police officers who patrol the streets) are another group of professionals who provide essential services during the pandemic. When they are on patrol, they are more exposed to infection and therefore also more susceptible to contamination by SARS-CoV-2. There are special units that provide dental care for the military police and their dependents. In the state of Rio de Janeiro, these units provide care for an average of 9,516 patients per month.⁶ Since the pandemic, adjustments have had to be made to the infection control practices observed by dental practitioners.

This integrative review was designed to analyze and summarize publications pertaining to infection control measures that should be taken by dental surgeons during the COVID-19 pandemic, drawing some general conclusions and pointing to some gaps in knowledge that still need to be filled. Based on the review findings and scientific evidence encountered, we also propose an adjusted protocol for the Rio de Janeiro State Military Police dental care units during the COVID-19 pandemic.

Materials and Methods

The question that motivated this literature review was: What precautions should be taken in dental health care during the COVID-19 pandemic? The integrative review methodology involved the following steps: (1) selecting the research question; (2) retrieving studies of relevance; (3) selecting studies based on pre-established inclusion criteria; (4) analyzing and collating the data; and (5) summarizing and communicating the information. The findings of this review were then used to adapt the infection prevention procedures to be adopted at the Rio de Janeiro State Military Police dental care units during the COVID-19 pandemic.

Searches were made of the following databases on April 11, 2020: the regional VHL Network Portal, which provides access to Lilacs, SciELO, Medline, and other information sources, like open-access educational resources, websites, and scientific events, as well as Web of Science and Pubmed. The search strategy was based on the following query: (“*covid19* “ AND “*dentistry*”). Publications from 2019 and 2020 were retrieved, and no geographical restriction was imposed. The title, abstract, and keywords

fields were searched. The documents were then included or excluded according to the following criteria: **a) inclusion criteria:** documents concerning dental care and COVID-19 infection, and studies presenting recommendations on the prevention of COVID-19 infection or cross-infection; **b) exclusion criteria:** studies that did not describe biosecurity routines for preventing COVID-19 infection in healthcare settings, were not available in English, Spanish, or Portuguese, and were not available online in full.

Thirty-nine studies were retrieved using this strategy, of which eight were found to be duplicates. The 31 remaining titles and abstracts were read by two reviewers. When an abstract indicated that the study may fit the inclusion criteria, the full article was retrieved to confirm its eligibility. When an abstract was read and it was unclear whether the study should be included, the respective full article was also obtained and read. After this procedure, 13 articles were left. In order to expand the scope of analysis of this review,⁷ the bibliographical references of these 13 articles were searched to identify any other studies that may fit the inclusion criteria, which resulted in the inclusion of five other articles, bringing the final total to 18 (Figure 1).

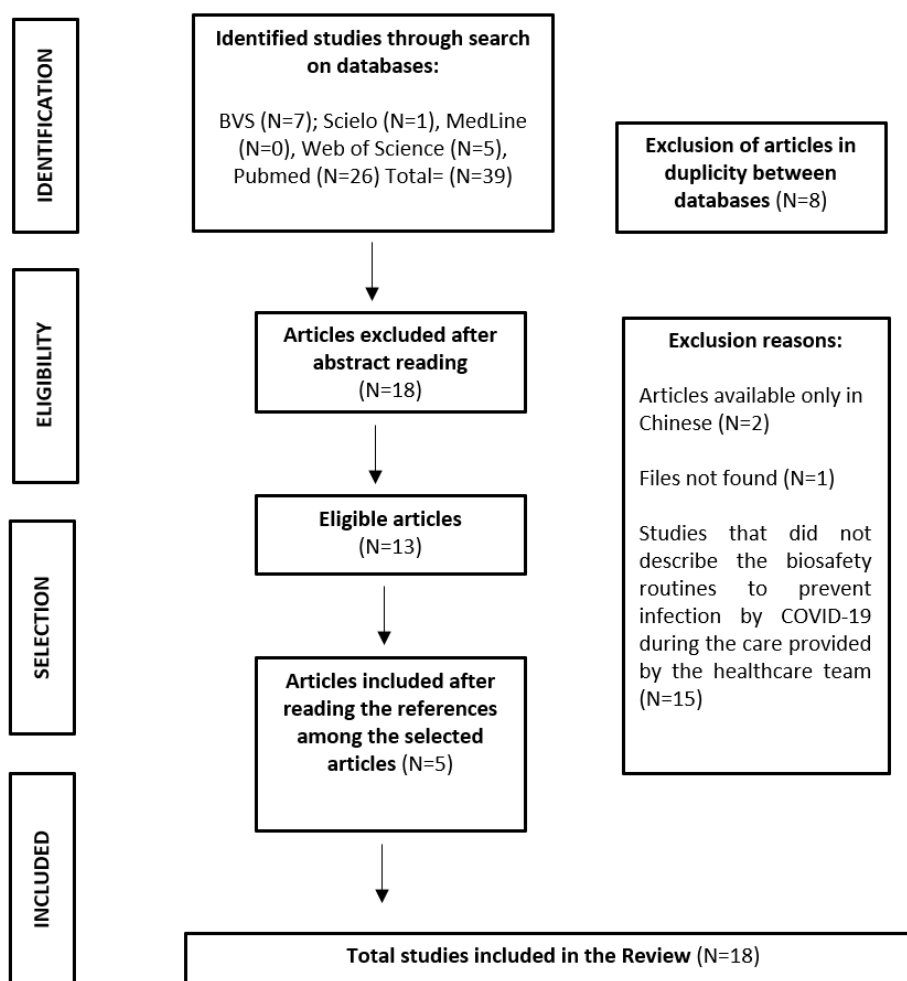


Figure 1. Flowchart of the process for the identification and selection of articles on infection control measures for dental health care during the COVID-19 pandemic (abbreviation: N = number).

Results and Discussion

Table 1 shows the country of publication, the method used, the objectives, results, conclusions, and COVID-19 infection control recommendations for dental care settings

found in the 18 articles selected. These data were used to inform the description and results presented here and the suggested infection prevention measures to be used in dental care.

Table 1. Articles retrieved in the review: author, year of publication, country, results, conclusion, and measures to prevent COVID-19 infection during dental care

Authors, Year, Country	Methods and Objectives	Results and Conclusions	Measures to prevent COVID-19 infection during dental care
Adams & Walls, ²³ 2020, USA	Opinion article. Stresses the need for cross-infection prevention.	Priority should be given to COVID-19 testing for health professionals and their families and help with the provision of food and reducing anxiety levels in the team.	Use of PPE and rigorous hand hygiene.
Berlin-Broner & Levin, ²⁷ 2020, Canada	Letter to the editor. Recommends dental care priorities during the COVID-19 pandemic.	Importance of prevention to avoid emergencies. Priority should be given to care for acute conditions, even in the absence of pain.	-
Cochrane, ³⁰ 2020, Brazil	Literature review. Indicates the need to make periodic COVID-19-related reviews.	-	Hand washing, use of PPE, general precautions.
Guo <i>et al</i> , ²⁸ 2020, China	Descriptive observational study. Analyzes the demographic characteristics and reasons for seeking emergency dental care during the epidemic.	A 38% drop in demand for dental care was observed at the beginning of the COVID-19 epidemic. The proportion of dental and oral infections rose from 51% to 71%, and the proportion of dental trauma dropped from 14.2% to 10.5%. The COVID-19 epidemic had a great impact on the use of emergency dental services.	Restrict dental care to urgent and emergency cases.
Kampf <i>et al</i> , ¹⁸ 2020, Germany	Literature review. Assesses the persistence of coronaviruses on different types of inanimate surface and tests the effectiveness of different agents for disinfecting inanimate surfaces against different types of coronavirus.	Human coronaviruses can remain infectious on inanimate surfaces for up to 9 days at ambient room temperature. Contamination of frequent-touch surfaces in healthcare settings represents a potential source of viral transmission. Chlorhexidine was ineffective.	Handwashing; disinfection of surfaces with 0.1% sodium hypochlorite or 62%-71% ethanol for 1 minute.
Khader <i>et al</i> , ¹³ 2020, Saudi Arabia	Analytical observational study. Assesses the level of awareness of Jordanian dental surgeons about the physiopathology of COVID-19 and infection control measures to be taken when providing dental care for infected patients.	Most of the dentists were well informed about the physiopathology of COVID-19 and general preventive measures in the dental office, but less familiar with additional protective measures. Indicate the need for regional and national guidelines for dentists.	Frequent hand hygiene; constant disinfection of surfaces; use of PPE and discarding after each patient; increased ventilation of consulting room; use of rubber dam isolation, anti-retraction handpiece and mouth rinsing before dental procedure.
Khurshid <i>et al</i> , ¹⁵ 2020, Saudi Arabia	Opinion article. Assesses the possibility of using saliva for early detection of COVID-19.	Need for more investigations into the importance of saliva in diagnostic testing and disease transmission.	-

Martelli-Júnior <i>et al.</i> , ²⁵ 2020, Brazil	Letter to the editor. Reports on the importance of scientific publications during the COVID-19 pandemic.	Considering the significant number of dental surgeons around the world, it is important to take swift action to provide them with better training in how to perform dental treatments in the context of the COVID-19 pandemic.	-
Meng <i>et al.</i> , ¹² 2020, China	Case report. Draws on direct experience of COVID-19 to provide management protocols for dental surgeons and students in areas affected.	Dental offices may constitute a threat to the infection control of COVID-19: 29% of the population infected in Wuhan were health workers.	Restrict dental care to urgent and emergency cases; clean and disinfect consultation room; treat patients in a well ventilated or negatively pressured room; screening (clinical history) and temperature; rigorous hand hygiene and PPE for the whole dental team; antimicrobial mouth rinse; avoid aerosol-generating procedures; avoid use of three-way syringe; avoid intraoral x-ray; use of adequate aspiration; use of rubber dam isolation when possible, absorbable suture, and four-handed procedures.
Napimoga & Freitas, ¹⁶ 2020, Brazil	Communication. Gives an overview of the reasons why dental offices have been closed for elective procedures and the future prospects of this scenario.	Dental offices are places of high risk of transmission. Dental procedures involve the production of aerosols, saliva, and blood, which remain airborne for a long time and settle on surfaces, where they can remain for up to 9 days.	Rigorous hand hygiene; PPE for dental professionals; mouth rinse before procedures; rubber dam isolation; anti-retraction handpiece; disinfection of the consulting room (0.1% sodium hypochlorite or 70% ethanol); surgical mask; face shield; and correct management of medical waste.
Ng K <i>et al.</i> , ²⁰ 2020, Singapore	Case report. Describes the clinical outcomes of healthcare workers who took care of a patient with severe pneumonia before being diagnosed with COVID-19.	None of the healthcare workers who came into contact with the patient was contaminated.	Use of N95 respirators, hand hygiene and other infection control procedures.
Peng <i>et al.</i> , ⁵ 2020, China	Literature review. Recommends infection control measures to help prevent cross-infection in dental practice.	Dental professionals are at high risk of infection from COVID-19. Infection control measures are important for preventing cross-infection in hospitals and dental offices.	Screening (temperature and clinical history); hand hygiene; use of PPE; mouth rinse before treatment (1% hydrogen peroxide or 0.2% povidone); rubber dam isolation; prioritize use of manual instruments to minimize aerosol production; use anti-retraction handpieces; disinfect the dental setting; correct management of dental waste.
Sabino-Silva <i>et al.</i> , ¹¹ 2020, Canada/Brazil	Opinion article. Assesses the possibility of early COVID-19 detection through saliva.	Saliva samples could be collected for diagnostic studies as a non-invasive, cost-effective method presenting lower occupational risk.	Hand hygiene; use of PPE; caution when performing aerosol-generating procedures.
Sohrabi <i>et al.</i> , ⁸ 2020, UK	Literature review. Summarizes current knowledge about COVID-19.	More research is necessary to understand forms of transmission and vaccine development.	Frequent hand hygiene; identification and isolation of people who recently traveled to high-risk countries.

Spagnuolo et al, ¹⁴ 2020, Italy	Editorial. Gives an overview of COVID-19 and dentistry.	Need for guidelines for COVID-19 prevention and control in dental care settings.	Treat only urgent or emergency cases; employ social distancing; check temperature; administer COVID-19 screening questionnaire; use PPE; use antiseptic mouthwash before dental treatment; minimize aerosol generation; use anti-retraction handpieces; clean all surfaces; ventilate consultation room; sanitize air conditioning system
Schwartz et al, ²² 2020, USA and Taiwan	Case report. Analyzes the lessons learned during the SARS-Cov1 epidemic in Taiwan with regard to health worker protection measures to extend them to COVID-19.	Recommends the creation of stratified risk zones to control the movement of people: a clean zone for triage, an intermediate zone for atypical or suspected cases, and a contaminated zone for patients with a confirmed diagnosis.	Use transition zones, implementing stricter hand hygiene and PPE protocols according to the risk level of the zone.
Yang et al, ¹⁷ 2020, China	Case report. Describes the prevention and control measures of an oral and maxillofacial surgery department.	Presents a diagnosis and treatment algorithm for patients categorized according to the urgency and severity of the disease and the type of intervention.	Treat only urgent and emergency cases, evaluating the risk of COVID-19 infection; avoid transferring patients unnecessarily; well-ventilated individual rooms with sinks for hand-washing, keeping doors shut and the circulation of people to a minimum; limited visitors; complementary exams as required; conduct surgeries in an operating room with negative pressure; disinfect the operating room with 3% sodium hypochlorite for 30 minutes.
Zhang et al, ²⁶ 2020, China	Editorial. Describes the hospital response in Shanghai (China) during the outbreak of COVID-19.	Implemented infrastructure with areas to screen for patients with COVID-19, without reports of intra-hospital infection.	Control patient arrivals to reduce intra-hospital infection: temperature check, survey of clinical history, hand disinfection, and isolation of patients with confirmed infection.

The new coronavirus belongs to the family *Coronaviridae* of the order Nidovirales. Coronaviruses have a large positive-sense, single-stranded RNA genome and helical nucleocapsids.^{8,9} There are currently four coronavirus genera. Most of them cause infectious diseases that result in mild, moderate or severe symptoms affecting the respiratory tract of humans and vertebrates, like the coronavirus responsible for severe acute respiratory syndrome (SARS-CoV), in 2002-2003, and Middle East respiratory syndrome coronavirus (MERS-CoV) (2012). However, what sets apart the new virus, SARS-CoV-2, is its greater contagion potential and thus its rapid propagation.¹⁰

When it comes to person-to-person transmission routes, there was a consensus among all the authors that this occurs via respiratory droplets produced when a person coughs or sneezes and through contact.^{5,8,11-18} The virus has been found in saliva,^{5,8,11-15,19} and aerosol transmission has also been reported,^{5,11,12,14,16,17,20} which is of great concern for dental surgeons since many dental procedures are aerosol-generating.

The incubation time is believed to be 5 to 6 days,^{12,13,16,19} although it can as long as 14 days.^{5,12,13,16,19} Transmission during incubation²¹ and by asymptomatic patients^{5,11,12,14,16,22,23,24} is particularly relevant for dental practice, since asymptomatic patients can have a viral load that is similar to that of patients with symptoms.²⁴ This makes it all the more important for dental surgeons to strictly adhere to infection control procedures with all patients, including those who do not present with symptoms.

The articles consulted report different clinical characteristics for SARS-CoV-2. The most commonly reported symptoms are fever and cough,^{5,11,12,13,17,25,26} followed by myalgia, diarrhea, and vomiting,^{5,12,13} pneumonia^{4,5,11-13,15,16,17,18,25}, and abnormalities in chest CT scans.^{12,17} Some patients may be completely asymptomatic.^{5,11,12,14,16,22,23} Older age and underlying health conditions such as diabetes, hypertension, and heart disease are associated with a poorer prognosis.¹²

The high occupational risk of health workers has been noted in many studies.^{4,5,11-16,17,20,22,23,25} As such, the preventive measures employed to control COVID-19 infection are

summarized here as a basis for a standard dental care infection control procedure (Chart 1).

Eight of the articles recommended suspending elective dental procedures.^{5,12,14,16,17,27,28} The situations that call for urgent or emergency dental care in Brazil are listed on the Conselho Federal de Odontologia (Federal Council of Dentistry) website.²⁹ Since Brazil is such a large country and has such great regional disparities, it is important for dental surgeons to keep track of the spread of the disease in the area where they live and work. Reports on this are published by state and municipal disease surveillance departments.

Screening before attending an urgency/emergency is widely recommended,^{5,12,14,16,17} and should include questions to identify potential infection with COVID-19 (Chart 2). Any patient who answers “yes” to one or more questions should have their dental treatment delayed for 14 days, even if they do not have any respiratory symptoms.^{5,12,17}

Preprocedural mouthrinse to reduce oral microbial load is cited by some authors,^{5,12-14,16} but there seems to be some disagreement about what substance should be used. Only

one of the authors⁵ identified in this review mentions the rinsing agent, citing the COVID-19 diagnosis and treatment guidelines published by the National Health Commission of the People’s Republic of China, which recommends mouth rinsing using 1% hydrogen peroxide or 0.2% povidone iodine. The recommendation to use hydrogen peroxide is based on the efficacy of this agent in decontaminating surfaces.¹⁸ However, there is as yet no scientific evidence proving its effectiveness in reducing the viral load when used in mouth rinsing. Chlorhexidine, commonly used in dentistry as an antiseptic agent for mouth rinsing, has not been found effective in decontaminating surfaces infected with SARS-CoV-2,¹⁸ which is why its use is not recommended in the proposed infection control procedure.⁵

Measures to prevent aerosol production are cited, and include avoiding the use of the three-way syringe, high-speed dental drill, and ultrasound, giving precedence to manual instruments for the removal of calculus and decay,^{5,12,13,16} assisted by the use of rubber dam isolation and high-volume saliva ejectors. Periapical x-rays should be avoided as they stimulate saliva secretion and coughing.¹²

Chart 1. Infection control protocol for dental care

Infection control protocol for dental care
Provide only urgent and emergency dental care, as indicated by the Brazilian Federal Council of Dentistry (Conselho Federal de Odontologia). Postpone elective procedures.
Screening of patients outside the healthcare unit: maintain a distance of 1.5 meters from the patient; survey clinical history to check for COVID-19; check patient’s temperature.
Preparation of patient for treatment: send the patient to the dental hygiene area to wash their hands and face (soap, water, and hand sanitizer) and rinse their mouth with 1% hydrogen peroxide.
Preparation of consulting room: have a minimum of objects on the work surfaces; use barrier protection (plastic bags or plastic wrap) for three-way syringe, dental light handle, and arm of the chair; keep medical records and mobile phones in the waiting area.
Sequence for donning and doffing PPE by the dentist and assistant: remove all jewelry (rings, bracelets, necklaces, earrings, watches), wash hands and face with soap and water for 20 seconds before donning hair cover, surgical mask, goggles, face shield, full-length, long-sleeved, impermeable, back-opening gown, and surgical gloves. In aerosol-generating procedures, wear a N95 or PFF2 respirator and a surgical mask over this.
Four-handed dental procedures: avoid using the three-way syringe, high-speed drill, and ultrasound; maintain constant, efficient aspiration; avoid periapical x-ray; whenever possible use manual instruments to remove calculus and decay.
Doffing of PPE: remove gloves, face shield, masks by their straps, gown, and hair covering, sanitizing hands with hand sanitizer at every stage. Wash hands, face, and neck with soap and water for 30 seconds.
Management of waste produced during treatment: waste must be disposed of as infectious waste.
Cleaning and disinfection of surfaces: open windows to ventilate the working environment, and for aerosol-generating procedures wait three hours to clean the consulting room; rigorously sanitize the whole room with 0.1% sodium hypochlorite or 70% ethanol and change the protective barriers between patients.

Chart 2. Screening questions for COVID-19

Screening questionnaire
1. Have you had a fever or difficulty breathing in the last 14 days?
2. Have you been in close contact with anyone who has tested positive for COVID-19 or had a fever or respiratory symptoms in the last 14 days?

As for cross-infection of health workers, hand washing and the use of personal protective equipment (PPE) is recommended.^{5,11-14,16,17,20,22,23,30} N95/PFF2 respirators are also recommended^{4,12,20,22,23,31,32} as they filter better and are more airtight than disposable surgical masks.³³ These devices are classified as semi-disposable, because they can be reused by the same user for as long as they are in a good state of conservation (straps intact, no visible sign of dirt or contamination by bodily fluids and can be fit-tested).³³ In view of N95 shortages during the pandemic, it has been recommended^{32,34} that they can be used beyond their manufacturer-designated shelf life, provided they are treated with care.³⁴ Once a N95/PFF2 respirator is on, care should be taken not to touch the front of the mask because it may be contaminated, and to remove it by holding the straps. Once the respirator is removed, it should be stored in an individual, breathable container so that any moisture can escape.³³ The use of a surgical mask over a N95/PFF2 respirator helps to reduce surface contamination, extends its useful life, and is recommended when performing surgery and treating patients exhibiting symptoms.³³

Another recommendation is the use of long-sleeved gowns/coveralls made of impermeable nonwoven fabric (at least 30g/m²) with snugly fitting wrists and back opening.³² This garment should be disposed of after each patient, after which hands should be washed. The use of a long-sleeved, back-opening plastic apron over the gown is a useful alternative during PPE shortages, as it means the gown does not have to be disposed of after each patient. The plastic apron may be reused with different patients after disinfecting its surface.

The conjunctiva should be protected by wearing goggles or face shield.^{5,16,17,23} Face shields are preferred for aerosol-generating procedures, as they protect a larger area, and should be worn in conjunction with a face mask.³² They can be reused after cleaning and disinfection between patients.

Finally, cleaning of the work area is fundamental for preventing cross-infection^{5,12-15,17,18,22} and should be done after each patient. All the equipment, work surfaces, chair,

tables, and handles should be disinfected.¹⁸ Persistence studies of different surfaces show that some coronaviruses can remain infectious on fomites for up to nine days.¹⁸ SARS-CoV-2 can remain viable and infectious in aerosols for three hours,³⁵ which is the reason for the recommendation that the consulting room should be ventilated after each patient¹⁴ and should only be cleaned after three hours have elapsed. The solutions considered effective in inactivating the virus by rubbing are 70% ethanol (hydrous ethyl alcohol [70% w/w] or 77° G.L. [77% v/v]) and 0.1% sodium hypochlorite.^{16,18}

Like any scientific study, this one has some limitations. These include the methodological weaknesses inherent to the articles reviewed, since most of them are actually reports of local health care experiences, which do not involve testing the efficacy of the techniques adopted, making it hard to establish the evidence. Another weakness is the limited number of publications that combine studies of dentistry and SARS-CoV-2.

As this is a new virus whose specific features are being discovered as the pandemic unfolds, it is hoped that new publications will indicate new evidence, which will inevitably result in changes to the infection control procedures adopted in dental care.

Conclusion

During an outbreak of SARS-CoV-2, only urgent or emergency dental procedures should be conducted. The dental surgeon should observe strict hand hygiene and wear and use all PPE correctly. It is also recommended that they screen patients for COVID-19, use 1% hydrogen peroxide as a preprocedural mouthrise for 30 seconds, use four-handed techniques, avoid aerosol-generating procedures whenever possible, and use rubber dam isolation and effective aspiration. A three-hour gap should be observed after aerosol-generating procedures, and all surfaces in the work area should be cleaned with 0.1% sodium hypochlorite or 70% alcohol between patients. All instruments should be sterilized and waste should be disposed of appropriately.

References

- Li Q, Guan X, Wu P, Wang X, Zhou L, Tong Y, *et al.* Early transmission dynamics in Wuhan, China, of novel coronavirus-infected pneumonia. *N Engl J Med.* 2020;382(13):1199-1207.
- Mahase E. China coronavirus: WHO declares international emergency as death toll exceeds 200. *BMJ.* 2020; 368:m408. In Press 2020.
- Ministério da Saúde, [homepage na internet]. Portaria 454. 20 marc. 2020 [Accessed on Apr. 12, 2020]. Available at: <https://www.saude.gov.br/boletins-epidemiologicos>.
- Farooq I, Ali S. COVID-19 outbreak and its monetary implications for dental practices, hospitals and healthcare workers. *Postgrad Med J.* In Press 2020.
- Peng X, Xu X, Li Y, Cheng L, Zhou X, Ren B. Transmission routes of 2019-nCoV and controls in dental practice. *Int J Oral Sci.* 2020; 12(1):1-6.
- Information based on 2019 figures provided by the General Department of Dentistry of the Rio de Janeiro State Military Police on April 15, 2020.
- Mendes KDS, Silveira RCCP, Galvão CM. Revisão integrativa: método de pesquisa para a incorporação de evidências na saúde e na enfermagem. *Texto Contexto Enferm.* 2008; 17(4):758-764.
- Sohrabi, C., Alsafi, Z., O'Neill, N., Khan, M., Kerwan, A., Al-Jabir, A. *et al.* World Health Organization declares global emergency: A review of the 2019 novel coronavirus (COVID-19). *Int J Surg.* 2020; 76:71-76.
- Mizumoto, K., Chowell, G. Transmission potential of the novel coronavirus (COVID-19) onboard the diamond Princess Cruises Ship, 2020. *Inf Dis Mod.* 2020;5:264-270.
- Zhou P, Yang XL, Wang XG, Hu B, Zhang L, Zhang W, *et al.* A pneumonia outbreak associated with a new coronavirus of probable bat origin. *Nature.* 2020; 579:270-273.
- Sabino-Silva R, Jardim ACG, Siqueira WL. Coronavirus COVID-19 impacts to dentistry and potential salivary diagnosis. *Clin Oral Investig.* 2020;24(4):1619-1621.
- Meng L, Hua F, Bian Z. Coronavirus disease 2019 (COVID-19): Emerging and future challenges for Dental and Oral Medicine. *J Dent Res.*

In Press 2020.

13. Khader Y, Al Nsour M, Al-Batayneh OB, Saadeh R, Bashier H, Alfaqih M, *et al.* Dentists awareness, perception, and attitude regarding COVID-19 and infection control: A cross-sectional study among Jordanian dentists. *JMIR Public Health Surveill.* 2020; 6(2):e18798.
14. Spagnuolo G, De Vito D, Rengo S, Tatullo M. COVID-19 Outbreak: An overview on dentistry. *Int. J. Environ. Res. Public Health.* 2020;17(6):2094.
15. Khurshid Z, Asiri FYI, Al Wadaani H. Human Saliva: Non-invasive fluid for detecting novel coronavirus (2019-nCoV). *Int. J. Environ. Res. Public Health.* 2020;17(7): E2225.
16. Napimoga MH, Freitas ARR. Dentistry vs severe acute respiratory syndrome coronavirus 2: How to face this enemy. *RGO.* 2020;68:E20200011.
17. Yang Y, Soh HY, Cai ZG, Peng X, Zhang Y, Guo CB. Experience of diagnosing and managing patients in Oral Maxillofacial Surgery during the prevention and control period of the new coronavirus pneumonia. *Chin J Dent Res.* 2020;23(1):57-62.
18. Kampf G, Todt D, Pfaender S, Steinmann. E. Persistence of coronaviruses on inanimate surfaces and their inactivation with biocidal agents. *J Hosp Infect.* 2020; 104(3):246-251.
19. Pan X, Ojcius DM, Gao TG, Li Z, Pan C, Pan C. Lessons learned from the 2019-nCoV epidemic on prevention of future infectious diseases. *Microbes Infect.* 2020;22(2): 86-91.
20. Ng K, Poon BH, Kiat Puar TH, Shan Quah JL, Loh WJ, Wong YJ, *et al.* COVID-19 and the risk to health care workers: A case report. *Ann Intern Med.* 2020;L20-0175.
21. Rothe C, Schunk M, Sothmann P, Bretzel G, Froeschl G, Wallrauch C, *et al.* Transmission of 2019-nCoV infection from an asymptomatic contact in Germany. *N Engl J Med.* 2020; 382(10):970-971.
22. Schwartz J, King CC, Yen MY. Protecting healthcare workers during the coronavirus disease 2019 (COVID-19) outbreak: Lessons from Taiwan's severe acute respiratory syndrome response. *Clin Infect Dis.* 2020;ciaa255.
23. Adams JG., Walls, RM. Supporting the health care workforce during the COVID-19 global epidemic. *JAMA.* 2020;Published Online.
24. Zou L, Ruan F, Huang M, Liang L, Huang H, Hong Z, *et al.* SARS-CoV-2 viral load in upper respiratory specimens of infected patients. *N Engl J Med.* 2020;382(12):1177-1179.
25. Martelli-Júnior H, Machado RA, Martelli DRB, Coletta RD. Dental journals and coronavirus disease (COVID-19): A current view. *Oral Oncol.* 2020;104664.
26. Zhang Y, Sun Z, Latour JM, Hu B, Qian J. Hospital response to the COVID-19 outbreak: the experience in Shanghai, China. *J Adv Nurs.* 2020; In Press 2020.
27. Berlin-Broner Y, Levin L. 'Dental hierarchy of needs' in the COVID-19 era—or why treat when it doesn't hurt? *Oral Health Prev Dent.* 2020; 18(2):95.
28. Guo H, Zhou Y, Liu X, Tan J. The impact of the COVID-19 epidemic on the utilization of emergency dental services. *J Dent Sci.* In press 2020.
29. Conselho Federal de Odontologia, [homepage na internet]. [Accessed on Apr. 13, 2020]. Available at: <https://coronavirus.cfo.org.br/> 2020.
30. Cochrane, Coleção especial: Coronavirus (COVID-19): medidas para o controle e a prevenção de infecções. <https://www.cochrane.org/pt/special-collection-coronavirus-covid-19-infection-control-and-prevention-measures>.
31. CDC. Interim infection prevention and control recommendations for patients with suspected or confirmed coronavirus disease 2019 (COVID-19) in healthcare settings. (Updated on 04/13/2020). Available at: https://www.cdc.gov/coronavirus/2019-ncov/hcp/infection-control-recommendations.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Finfection-control%2Fcontrol-recommendations.html/2020.
32. ANVISA. NOTA TÉCNICA Nº 04/2020. Orientações para serviços de saúde: medidas de prevenção e controle que devem ser adotadas durante a assistência aos casos suspeitos ou confirmados de infecção pelo novo Coronavírus (SARS-CoV-2). (Updated on 03/21/2020). Available at: <http://portal.anvisa.gov.br/documents/33852/271858/Nota+T%C3%A9cnica+n+04-2020+GVIMS-GGTES-ANVISA/ab598660-3de4-4f14-8e6f-b9341c196b28/2020>.
33. ANVISA. Cartilha de Proteção Respiratória contra Agentes Biológicos para Trabalhadores de Saúde. Available at: http://www.lacen.saude.pr.gov.br/arquivos/File/Manuais/Anexos/ANEXO_9_CARTILHA_PROTECAO_RESPIRATORIA_CONTRA_AGENTES_BIOLÓGICOS_PARA_TRABALHADORES_SAUDE.pdf/2009.
34. CDC. Recommended Guidance for Extended Use and Limited Reuse of N95 Filtering Facepiece Respirators in Healthcare Settings. (Updated on 03/27/2020). Available at: <https://www.cdc.gov/niosh/topics/hcwcontrols/recommendedguidanceextuse.html/> 2020.
35. Van Doremalen N, Bushmaker T, Morris DH, Holbrook MG.; Gamble A; Williamson, B, *et al.* Aerosol and surface stability of SARS-CoV-2 as compared with SARS-CoV-1. *N. Engl. J Med.* 2020; 382(16):1564-1567.

Mini Curriculum and Author's Contribution

1. Adriane Batista Pires Maia - DDS; PhD student. Contribution: literature review, preparation, writing, and review of the manuscript. ORCID: 0000-0001-6081-707X
 2. Vanessa Paiva Reis - DDS. Contribution: preparation, writing, and review of the manuscript. ORCID: 0000-0001-7682-547X
 3. Adriana Raymundo Bezerra - DDS; MSc. Contribution: preparation, writing, and review of the manuscript. ORCID: 0000-0001-9487-1904
 4. Danielle Castex Conde - DDS; PhD. Contribution: preparation, writing, and review of the manuscript. ORCID: 0000-0002-8492-9145
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Corresponding author**Adriane Batista Pires Maia**E-mail: adrianepmaia@gmail.com