


# Clinical dental protocols during the COVID-19 pandemic in Mercosur countries: similarities and discrepancies

## Protocolos de atendimento odontológico durante a pandemia de COVID-19 nos países do MERCOSUL: similaridades e discrepâncias

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### ABSTRACT

**Introduction:** The current coronavirus pandemic has led to the formulation of specific guidelines for dental care by several countries, in order to institute preventive measures and prevent the spread of the virus. **Objective:** This article analyzes dental protocols available in the Common Market of the South (Mercosur) countries - Brazil, Argentina, Uruguay, and Paraguay - pointing out the main similarities and discrepancies between them. **Method:** Comparative documentary review of dental care protocols in four countries that are members of Mercosur and literature review about the current guidelines in relation to dental care. For this purpose, searches were carried out on the PubMed and SciELO databases. **Results:** Many similarities were found in the guidelines, mainly in relation to the procedures maintained during the pandemic, the use of PPE, antiseptics and cleaning methods. However, data on time intervals between consultations differed. In addition, not all aspects were mentioned in all protocols or were only superficially mentioned. When comparing the information available with that found in the literature, it was observed that there is scientific basis. **Conclusions:** The detailed guidance on the care to be adopted by dental professionals is especially important for them to be effectively implemented. The need to constantly update the protocols is also reinforced, based on the most recent scientific evidence, in order to reduce the risks of virus transmission.

**KEYWORDS:** COVID-19; Pandemic; Clinical Dental Protocols; Prevention; Health Surveillance

### RESUMO

**Introdução:** A atual pandemia do novo coronavírus levou à formulação de diretrizes específicas para o atendimento odontológico por diversos países, a fim de instituir medidas preventivas e evitar a disseminação do vírus. **Objetivo:** Analisar os protocolos odontológicos disponibilizados nos países do Mercado Comum do Sul (Mercosul) - Brasil, Argentina, Uruguai e Paraguai -, apontando as principais semelhanças e discrepâncias entre eles. **Método:** Pesquisa documental comparativa dos protocolos de atendimento odontológico de quatro países integrantes do Mercosul e revisão de literatura acerca das orientações vigentes em relação ao atendimento odontológico. Para tanto, foram realizadas buscas nas bases PubMed e SciELO. **Resultados:** Foram encontradas muitas semelhanças nas orientações dadas nos quatro protocolos, principalmente em relação aos procedimentos mantidos durante a pandemia, ao uso de equipamentos de proteção individual, métodos de antissepsia e limpeza. Porém, os dados acerca dos intervalos de tempo entre as consultas diferiram entre si. Além disso, nem todos os aspectos foram mencionados em todos os protocolos ou constaram apenas de forma superficial. Ao comparar as informações disponibilizadas com aquelas encontradas na literatura, observou-se que há embasamento científico. **Conclusões:** A orientação detalhada acerca das medidas a serem adotadas pelos profissionais da odontologia é importante para que elas de fato sejam efetivadas. Reforça-se ainda a necessidade de atualização constante dos protocolos, com base nas evidências científicas mais recentes, a fim de reduzir os riscos de transmissão do vírus.

**PALAVRAS-CHAVE:** COVID-19; Pandemia; Protocolo Odontológico; Prevenção; Vigilância Sanitária

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Received: 20 May 2020  
Approved: 02 Jun 2020



## INTRODUCTION

The new coronavirus, also called SARS-CoV-2, which causes the COVID-19 disease, was detected in late December 2019 in Wuhan, Hubei province, China<sup>1</sup>. In the first days of January 2020, the World Health Organization (WHO) confirmed its circulation, and on January 16, the first import into Japanese territory was notified. On January 21, the United States of America reported its first imported case<sup>1</sup>. On January 30, WHO declared the epidemic an international emergency<sup>2</sup>. At the end of January, several countries had already confirmed imports of cases, including the United States of America, Canada, and Australia. In Brazil, on February 7, there were nine cases under investigation but with no confirmed case records<sup>1,3</sup>.

The first data available on the new coronavirus show a high capacity for infection but relatively low lethality<sup>4</sup>. In the European continent, the mortality rate fluctuated around 2% in March and April 2020, however it increased according to age, reaching 8% in patients over 70 years of age. Individuals who have chronic diseases such as diabetes, cardiovascular, and respiratory diseases are also subject to greater lethality<sup>5,6</sup>.

The main forms of contagion of SARS-CoV-2 include direct transmission by coughing, sneezing, and splutter, as well as transmission by contact with the oral, nasal, and eye mucous. Although clinical manifestations do not include eye symptoms, analyzes of the conjunctivae of suspected and confirmed cases suggested that transmission is not limited to the respiratory tract only<sup>1,5</sup>. In addition, the virus can be transmitted from person to person through direct or indirect contact, with fluids and saliva<sup>1,5,6</sup>.

Given the characteristics of dental care - which include face-to-face proximity between patients, dental surgeons (DS), and auxiliary staff - frequent exposure to saliva, blood, and other fluids occurs, there is also the production of aerosols, in addition to contact with contaminated hand sharp instruments. Biosafety measures are essential to prevent the transmission of microorganisms<sup>1,7,8</sup>. In situations of outbreaks of certain diseases, care with the practice becomes even more necessary so that professionals and patients are safer and protected<sup>4,5,6</sup>.

Hand hygiene has been considered the most critical measure to reduce the risk of transmitting microorganisms to patients<sup>9</sup>. SARS-CoV-2 can stay on surfaces for a few hours or even several days, depending on the type of surface, the temperature, or the humidity of the environment<sup>8</sup>. This reinforces the need for biosafety in the dental clinic. The use of personal protective equipment (PPE) is recommended, which includes masks, gloves, aprons, and glasses or face shields, to protect the skin and mucous membrane from the blood or (potentially) infected secretion<sup>6,10</sup>.

As respiratory droplets are the primary route of transmission of SARS-CoV-2, particle respirators (for example N-95 masks certified by the National Institute for Occupational Safety and Health or standard FFP2 masks defined by the European Union) are recommended for routine dental practice procedures<sup>6,10,11</sup>.

Failure to provide dental care during the pandemic may reduce the number of individuals affected but it will increase the suffering of individuals who need urgent dental care<sup>6,10,11</sup>. It will also incense the burden of dental care in the emergency departments of hospitals. This requires the creation of standard guidelines for the provision of dental care during the worldwide spread of epidemic-pandemic and/or local outbreaks<sup>12,13</sup>.

Faced with the need to maintain emergency care, in accordance with preventive measures to prevent the spread of the virus, some countries of the Southern Common Market (Mercosur) such as Argentina, Brazil, Paraguay, and Uruguay published dental care protocols during the COVID-19 pandemic. The present study aimed to analyze these protocols by pointing out the main similarities and discrepancies between them, in order to guide dental practice more effectively and safely in times of the COVID-19 pandemic in Mercosur countries.

## METHOD

This is comparative documentary research of qualitative analysis of dental care protocols available on the government websites of four Mercosur countries - Argentina, Brazil, Paraguay, and Uruguay. The searches for the protocols took place on the official websites of the Ministry of Health or corresponding bodies in Argentina, Brazil, Paraguay, and Uruguay.

Along with the documentary research, a narrative review of the literature on international dental care protocols and search in the PubMed and *Scientific Electronic Library Online* (SciELO) databases on May 14, 2020, with the keywords: (COVID-19) AND (Dentistry OR Dental Protocol), as well as its translations in Portuguese and Spanish, on the same date. Inclusion criteria were articles in their complete and free versions, in English, Spanish, and Portuguese. Incomplete versions, in other languages, and that did not have dental care protocols as the main theme during the COVID-19 pandemic or that were restricted to a dental specialty were excluded from the present study. This review was used as a secondary action to discuss the results obtained in the document analysis proposed in this study.

Documentary research enables the understanding of certain situations and contexts from existing records. Documents are a non-reactive source, since, even after a long period of time, the data and information contained in them remain the same<sup>14</sup>. Hence the importance of using documents, including those in the public domain, to deepen certain issues.

Qualitative information was assessed by content analysis. According to Bardin<sup>15</sup>, everything that is said or written is subject to content analysis. Content analysis can be understood as a set of communication analysis techniques aiming to obtain, by systematic and objective procedures for describing the content of messages, indicators (quantitative or not) that allow the inference of knowledge related to the conditions of production/reception (inferred variables) of these messages.



## RESULTS

Due to the COVID-19 pandemic, several countries have developed differentiated protocols for dental care in their territory. The recommendations of Brazil, Argentina, Uruguay, and Paraguay converge on several points and have some issues addressed in different ways.

Concerning the assistance provided during the pandemic, the four countries advise continuing to provide urgent and emergency services. However, Paraguay and Argentina also consider maintaining urgent procedures (Table 1).

Regarding the guidelines to be followed before the consultation, Argentina and Paraguay indicate making appointments by phone or e-mail and avoid going to the office for scheduling. Argentina and Uruguay advise to call the patient before the consultation and investigate whether the individual has respiratory signs and symptoms. Paraguay and Uruguay advise providing educational material on preventive measures in the office.

When it comes to the care of patients in risk groups (over 60 years old, who have underlying diseases or chronic diseases), Uruguay and Brazil do not mention different measures for this group. While Argentina is advising to reduce waiting times and assist them in the morning shift. Paraguay also indicates that this group is served in the first-morning shift, however, only in cases of urgency or emergency (Table 1).

Regarding the time interval between consultations, the Brazilian protocol mentions that the time should be longer, however, it does not mention how much. Uruguay organizes consultations

with sufficient distance so that patients are not in the waiting room. Argentina recommends a minimum interval of 1h and an interval of 3h for procedures that generate aerosol. Paraguay indicates an interval of 1h for procedures that generate a little aerosol, 2h for moderate aerosol, and 3h if too much aerosol is produced (Table 2).

Regarding the PPE recommended for the operator, Brazil mentions that the correct use must be made, and indicates the N95 mask to care for users with symptoms of respiratory infection but does not mention PPE in its protocol. Argentina indicates the use of a surgical mask, face mask, apron, goggles, cap, disposable gloves, and shoe covers and also advises the use of an N95 mask and waterproof apron if it is an emergency with aerosol production. Uruguay indicates the use of long sleeve aprons, disposable gloves, goggles, hat, and N95 or PPF2 mask. While Paraguay does not mention the necessary PPE for the operator (Table 3).

The protocols of Argentina, Uruguay, and Paraguay converge regarding the antiseptics of the intraoral environment to decrease viral load before the procedure. Paraguay and Argentina indicate mouthwash 0.2% povidone-iodine or 1% hydrogen peroxide for 30 sec before the procedure, and Paraguay also recommends this protocol when the consultation is over. Uruguay, on the other hand, indicates 3% hydrogen peroxide or povidone-iodine before and after the procedure.

Regarding extraoral antiseptics, Uruguay recommends using 70% isopropyl alcohol, 3% hydrogen peroxide, 10 volumes of medicinal hydrogen peroxide, or povidone-iodine before and after the

**Table 1.** Services maintained and addressed in the Dental Care Protocols during the COVID-19 pandemic, in the countries that make up Mercosur.

Service reference			
Brazil	Argentina	Uruguay	Paraguay
Dental urgencies	Urgency and Emergency Services that do not produce aerosol Services that cannot be postponed for more than 60 days, that have a low risk of transmission during practice. Procedures should be performed in the least number of consultations possible	Urgency and Emergency	Urgencies, emergencies, and unavoidable procedures that can lead to an urgency

Source: Argentina<sup>16</sup>; Brazil<sup>3</sup>; Paraguay<sup>17</sup>; Uruguay<sup>18</sup>.

**Table 2.** Interval between consultations in Dental Care Protocols during the COVID-19 pandemic, in the countries that make up Mercosur.

Proposed interval between consultations			
Brazil	Argentina	Uruguay	Paraguay
It should be bigger, but it doesn't mention the time	At least 1h, and emergency care that generates aerosol: at least 3h	Schedule urgent appointments with sufficient distance so that patients are not in the waiting room.	Procedures that generate little aerosol: 1h Procedures that generate moderate aerosol: 2h Procedures that generate a lot of aerosol: 3h

Source: Argentina<sup>16</sup>; Brazil<sup>3</sup>; Paraguay<sup>17</sup>; Uruguay<sup>18</sup>.

**Table 3.** Personal protective equipment for dentists in the Dental Care Protocols during the COVID-19 pandemic, in the countries that make up Mercosur.

Personal protective equipment for operators			
Brazil	Argentina	Uruguay	Paraguay
Correct use of personal protective equipment. The N95 mask is indicated for cases of care for users with symptoms of respiratory infection	Surgical mask, face mask, apron, goggles, hat, gloves, and disposable shoe covers. In case of emergency with aerosol production, an N95 mask and waterproof apron must be worn	Long sleeve apron, disposable gloves, goggles, hat, N95 or PPF2 mask	Not mentioned

Source: Argentina<sup>16</sup>; Brazil<sup>3</sup>; Paraguay<sup>17</sup>; Uruguay<sup>18</sup>.



procedure. Paraguay indicates 1% hydrogen peroxide after the procedure. Brazil does not mention intra or extraoral antiseptics in its protocol (Table 4).

Only the Brazilian protocol does not address guidelines on cleaning the office after the procedures. The Argentine protocol mentions the need to clean and disinfect all surfaces with a 0.1% sodium hypochlorite solution with a towel or some disposable material, allowing it to act for a few minutes. The Uruguayan protocol directs the cleaning of the dental chair, the dental chair arm, and the dental sink with 70% isopropyl alcohol or a sodium hypochlorite solution. The Paraguayan advises first cleaning with soap and water and rinsing with water, and later disinfection with 0.1% hypochlorite or 70% isopropyl alcohol (Table 5). Only Paraguay mentions a protocol for cleaning and disinfecting reusable materials.

In the narrative review of the literature, from the searches in the SciELO and PubMed databases, 267 studies were found, with nine results on the first platform and 258 on the second. After removing the duplicates, 261 titles remained; 53 abstracts were retrieved, of which 39 were eligible to read the full text. In the end, 17 articles were included, which, in accordance with the proposed methodology, were used to discuss the results obtained in the document analysis.

### DISCUSSION

The dental clinic, due to the presence of organic fluids, such as blood, saliva, and purulent collections, exposes oral health professionals who work in it to various pathogenic biological agents. Such agents can lead to the development of infectious diseases and cross-infection. In this sense, the adoption of biosafety measures is essential to protect health professionals and users of the service<sup>19</sup>.

In circumstances where there is an excessive increase in the number of cases of certain diseases, such as the case of the COVID-19 pandemic, biosafety measures become even more necessary in

order to reduce the risks of contamination<sup>4,5,20</sup>. Thus, several countries have instituted specific protocols to guide dental care during the pandemic, such as those analyzed in this study.

Regarding the care provided during the pandemic, it was observed that the four countries under analysis restricted the procedures to be performed, proposing the maintenance of urgent and/or emergency procedures. With this restriction, interpersonal contact is limited and the waiting time for dental care and the risk of contamination are reduced<sup>21</sup>.

It is worth mentioning that, in biomedical terminology, the concepts of urgency and emergency may vary in different countries. Although in the Portuguese dictionary the two terms have equivalent meanings, in biomedical terms, what distinguishes both is the risk of life, that is, the threat to the maintenance of vital functions, whereas in an emergency this would be imminent and in urgencies, not<sup>22</sup>.

It was observed in the present study that only the Paraguayan protocol listed in detail the clinical conditions classified as dental urgencies (conditions that require immediate attention to relieve severe pain and risk of infection) and as emergencies (conditions that compromise the patient's life and require immediate treatment). Additionally, this protocol presented a table referring to each specialty, with treatments that cannot be postponed, since they can result in urgencies<sup>17</sup>.

The Argentine protocol exemplifies the procedures that can be performed such as those that do not result in the production of aerosol and procedures that cannot be postponed for more than 60 days and that are not at high risk of virus transmission<sup>16</sup>. However, it does not specifically address the classification of urgencies and emergencies. Similarly, the Brazilian and Uruguayan protocols also do not address this classification<sup>3,18</sup>.

In Brazil, in order to facilitate the identification of situations that require immediate assistance, the Brazilian Federal Council of Dentistry has published specific guidelines, classifying

Table 4. Antiseptics aspects of the intra and extra-oral environment in the Dental Care Protocols during the COVID-19 pandemic, in the countries that make up Mercosur.

Proposed intra and extra-oral antiseptics			
Brazil	Argentina	Uruguay	Paraguay
Not mentioned	Intra-oral: 0.2% povidone-iodine or 1% hydrogen peroxide for 30 sec before the procedure	Extra-oral: 70% isopropyl alcohol, 3% hydrogen peroxide, or 10 volumes of medicinal hydrogen peroxide or povidone-iodine before and after the procedure Intra-oral: 3% hydrogen peroxide or povidone-iodine. Gauze application. Before and after the procedure	Extra-oral: 1% hydrogen peroxide after the procedure Intra-oral: 0.2 povidone-iodine or 1% hydrogen peroxide for 30 to 60 sec before and after the procedure

Source: Argentina<sup>16</sup>; Brazil<sup>3</sup>; Paraguay<sup>17</sup>; Uruguay<sup>18</sup>.

Table 5. Cleaning the office in the Dental Care Protocols during the COVID-19 pandemic, in the countries that make up Mercosur.

Surface cleaning			
Brazil	Argentina	Uruguay	Paraguay
Not mentioned	Towel or disposable material with 0.1% sodium hypochlorite solution and leave to act for a few minutes	70% isopropyl alcohol or sodium hypochlorite solution	Cleaning with soap and water and rinsing with water, and disinfection with 0.1% hypochlorite or 70% isopropyl alcohol

Source: Argentina<sup>16</sup>; Brazil<sup>3</sup>; Paraguay<sup>17</sup>; Uruguay<sup>18</sup>.



conditions of emergency, urgency, and procedures not considered as urgent. To this end, it took as a technical basis the guidelines of the American Dental Association and the São Paulo Regional Council of Dentistry<sup>23</sup>.

According to the classification established by the *American Dental Association*<sup>24</sup>, emergency conditions are considered: uncontrolled bleeding; cellulite or diffuse bacterial infections, with increased volume (edema) and potential risk of compromising the patients' airway; and trauma involving the bones of the face, with potential involvement of the patient's airway. Urgent cases involve acute dental pain due to pulp inflammation, pericoronitis, postoperative surgical osteitis, change of dry cavity dressings, abscess or localized bacterial infection, dental trauma, among others.

A study conducted in China assessed how the COVID-19 pandemic influenced the patterns of use of emergency dental services since non-emergency services were suspended. There was a reduction in the demand for emergency services with the beginning of the pandemic (38% fewer patients than what had been observed a month earlier). The most frequent injuries also changed, with an increase in the proportion of dental and oral infection from 51.0% of pre-COVID-19 to 71.9% during COVID-19, and a reduction in dental trauma from 14.2% to 10.5%. Meanwhile, non-urgent cases have been reduced to three-tenths of pre-COVID-19. This fact may be associated with the strong recommendation that people stay in their homes<sup>10</sup>.

In the countries analyzed in this study, there are still no publications on the impacts of changes in dental health services. Studies like the one carried out in China prove to be of great importance to monitor the actions developed, as well as to plan the functioning of the services when they return to normal activities.

Even with the restriction of care, some procedures classified as urgency and emergency still require the use of rotary instruments, generating aerosols, such as the coronary opening for endodontic treatment<sup>11</sup>. In these circumstances, rubber dam isolation and four-hand care are highly recommended<sup>5,13</sup>. In addition, face-to-face proximity, contact with sharp instruments, and exposure to organic fluids reinforce the need to adopt other biosafety measures<sup>4,7</sup>.

Among such measures, the patient's previous screening can be cited, through thorough anamnesis, investigating symptoms such as fever, respiratory problems, cough, among others. If the patient is symptomatic, treatment should be postponed and the patient referred for medical evaluation<sup>4,7,25</sup>. Only two countries among those analyzed here provide guidance regarding this screening.

Van Doremalen et al.<sup>26</sup> analyzed the aerosol and surface stability of SARS-CoV-2 compared to SARS-CoV-1. The aerosol was generated by nebulizers, with conditions like those observed in samples obtained from the respiratory tract in humans. It was found that SARS-CoV-2 remained viable in aerosols for the entire duration of the experiment (3h), with a reduction in infectious titer from 103.5 to 102.7 TCID<sub>50</sub> per liter of air.

Studies such as the one mentioned above are possibly being used to guide the elaboration of the protocols, mainly in relation to the intervals between consultations. Such a fact would justify the recommendations of waiting for 3h between one patient and another when performing procedures that generate aerosols, found in two protocols analyzed here; as well as the orientation to attend patients from the risk group in the first-morning shift.

Maia et al.<sup>27</sup>, based on data found in a literature review, proposed a protocol in which they reinforce the importance of opening windows to ventilate the environment and wait for 3h to clean the environment. In addition, it is extremely important to avoid overcrowding in circulation areas and the waiting room, organizing the schedule with more spaced times so that this does not happen<sup>28</sup>.

Since the main route of dissemination is droplets in the air, the use of PPE is essential. The PPE recommended for use involves: goggles, masks, gloves, disposable cap, face shields, and protective clothing<sup>4,5,13,25,27</sup>.

According to Peng et al.<sup>5</sup>, there are recommendations at three levels for dental professionals: 1) primary protection, indicated for employees in a clinical environment, involves the use of a disposable cap, disposable surgical mask, work clothes, and the use of goggles or face shield and gloves, when necessary; 2) secondary protection, for dental professionals, involves the use of a disposable cap, disposable surgical mask, goggles, face shield, and work clothes with external isolation or surgical clothing and disposable latex gloves; and 3) tertiary protection, when in contact with the patient with suspected or confirmed COVID-19 infection, in addition to the previous items, a special protective suit, face shield, and waterproof shoe protector are recommended.

As a sequence for vesting, Maia et al.<sup>27</sup> suggest the removal of props; washing hands and face; wearing a cap, surgical mask, goggles, face shield, long-sleeved waterproof apron, and procedure glove. And, in procedures in which aerosols are generated, the most suitable mask is the N95 or PFF2 and, on top of that, a surgical mask.

In the protocols analyzed in this study, only Paraguay does not mention the use of PPE. In Brazil, recently, the Brazilian Health Regulatory Agency (Anvisa), published a technical note in which it provides guidelines for health services, including dentistry. Said note determines the use of complete PPE for all oral health professionals in the clinical environment, including disposable cap, goggles, face shield, N95/PFF2 mask or equivalent, long-sleeved and waterproof cloak or apron, and gloves. It also reinforces that the mask with an expiratory valve should not be used in dentistry, since the professional, if infected, could contaminate patients and the environment when exhaling<sup>29</sup>.

In order to reduce viral load before the procedure, antiseptics prior to the procedure has been proposed in the countries under analysis. The recommended substances were: hydrogen peroxide



or 0.2% povidone-iodine. Such substances are indicated because the SARS-CoV-2 virus is vulnerable to oxidizing agents<sup>13</sup>.

In Brazil, although no guidance in this sense was included in the protocol released by the Ministry of Health, more recently, a technical note from Anvisa also guided the use of hydrogen peroxide from 1.0% to 1.5% or povidone-iodine from 0.2% to 0.5% as a pre-procedure mouthwash. In addition, it proposes the possibility of making the subsequent use of chlorhexidine, since it alone does not seem to be effective, however, together with oxidizing agents, it seems to have a synergistic effect<sup>29</sup>.

Cleaning the office is another extremely important measure. Van Doremalen et al.<sup>26</sup> identified that, under experimental conditions, SARS-CoV-2 was more stable in plastic and stainless steel than in copper and cardboard, and viable viruses were detected up to 72 h after application. There are reports of virus survival ranging from 2 to 9 days<sup>4</sup>. Thus, it is essential to perform rigorous disinfection of the entire office, with 0.1% sodium hypochlorite or 70% isopropyl alcohol, as well as changing the protective barriers for each patient<sup>27</sup>. Other materials can be used, such as hydrogen peroxide<sup>4</sup> and 70% isopropyl alcohol<sup>13</sup>. Given this information, it is noted that the protocols analyzed in this study are in line with the data available in the literature.

The protective measures proposed in China were effective in preventing cross-contamination in dental offices. However, there are still some limitations, such as the difficulty in acquiring all the PPE proposed for use in the dental clinic, as many are not available. In addition, prior screening of patients, to identify those who may have the coronavirus and refer them for medical treatment, is not fully effective, since asymptomatic patients also transmit the disease. Thus, the protocol should follow the same recommendations for all patients, considering all of them as possible transmitters. Another suggestion would be the availability of quick tests for COVID-19 in the offices<sup>30</sup>.

Faced with the spread of coronavirus, countries have adopted different measures, according to their health systems, economics, and political ideology. Governments have tried to balance health and the economy. While in China a quick response was given, suspending routine dental care and obtaining effective results, in the UK, the NHS Health Service's initial view was that routine care should continue to be offered to asymptomatic patients, with the use of conventional PPE<sup>8</sup>.

The existence of scientific evidence about the importance of using PPE with greater protective capacity, such as N95 or FFP2 masks, for health professionals is reinforced, however, the dental surgeon is often disregarded in such guidelines. Despite the recommendation, many dentists have reduced their visits for fear of spreading the disease among their patients, respecting their moral values<sup>31,32,33</sup>.

As it is a new virus, new discoveries are made during the pandemic. Therefore, it is important to be aware of scientific evidence in order to promote infection control<sup>27</sup>. Health professionals are responsible for keeping themselves informed about such evidence, strictly following biosafety rules and the moral and ethical principles<sup>4</sup>.

## CONCLUSIONS

The availability of care protocols and their constant updating play an important role in guiding health professionals, especially in times of uncertainty, such as in this pandemic, when new discoveries occur daily. In the specific case of dental care, it is known that there are many associated risks, mainly due to the production of aerosols, proximity to the face, and exposure to saliva and blood. In this sense, the adoption of biosafety measures is essential for the protection of professionals and patients.

Analyzing Brazilian, Argentine, Paraguayan, and Uruguayan protocols, there were great similarities in their guidelines, mainly in relation to the procedures maintained during the pandemic, the use of PPE, antisepsis, and cleaning methods. However, data on the time intervals between consultations were not consensual.

It was observed that not all aspects were mentioned in all protocols or were only superficially mentioned. In addition, they brought the references used only at the end of the text, without citing the available evidence throughout the protocol to support the guidelines given. However, when comparing the information available in the protocols with that available in the scientific literature, it was observed that there is a consensus between them.

In the case of a moment of so many doubts, the detailed orientation of the measures to be adopted proves to be of great value for them to actually take effect. Furthermore, the importance of constantly updating protocols is reinforced, as new discoveries have been made daily; and the awareness of oral health professionals, so that they are aware of such guidelines.

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#### Author's Contributions

Silva ROC, Zermiani TC, Bonan KFZ, Ditterich RG - Conception, planning (study design), acquisition, analysis, data interpretation, and writing of the work. All authors approved the final version of the work.

#### Conflict of Interests

The authors inform that there is no potential conflict of interest with peers and institutions, politicians, or financial in this study.



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