SCT Proceedings in Interdisciplinary Insights and Innovations. 2025; 3:398
doi: 10.56294/piii2025398

Category: Applied Research in Health and Medicine

ORIGINAL

New protocol for care in the dental health system following the Covid-19 pandemic

Nuevo Protocolo de atención en el Sistema de Salud Odontológico a partir de la pandemia por Covid-19

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Cite as: Mattos B. New protocol for care in the dental health system following the Covid-19 pandemic. SCT Proceedings in Interdisciplinary Insights and Innovations. 2025 Jan. 1; 3:398. DOI: https://doi.org/10.56294/piii2025398

Submitted: 12-09-2025 **Reviewed:** 27-11-2024 **Accepted:** 03-01-2025 **Published:** 05-01-2025

Editor: Emanuel Maldonado

ABSTRACT

In 2019 the world experienced a new pandemic and today it continues to leave sequelae on humanity, SARS-CoV-2 became the seventh betacoronavirus to infect the human species, it was characterized by high transmissibility and relatively low lethality; It manifests itself in a mild form in most of the population and increases the probability of severity and lethality in adults over 65 years of age, with previous chronic non-communicable diseases, such as diabetes, arterial hypertension, respiratory diseases and obesity. Knowledge about this virus was built as we went through it, so medicine and all its specialties had to make important adaptations in the forms of patient care. Dentistry in particular, due to having a high exposure to contagion, is in constant review of its care protocols and biosafety standards that are essential for a safe practice for both the professional and the patients. This research, with a cross-sectional descriptive approach, was carried out through the application of an anonymous survey, in order to determine the level of knowledge of the new biosafety protocols from the pandemic, it was applied to 52 practicing dentistry professionals. and a comparison was made with respect to the practices carried out before said pandemic.

Keywords: Dentistry; Biosecurity; COVID19.

RESUMEN

En el 2019 el mundo vivió una nueva pandemia y hoy en día sigue dejando secuelas en la humanidad, el SARS-CoV-2 se convirtió en el séptimo betacoronavirus que infecta a la especie humana, se caracterizó por una alta transmisibilidad y relativa baja letalidad; se manifiesta en la mayor parte de la población de forma leve y aumenta la probabilidad de severidad y letalidad en adultos mayores de 65 años, con enfermedades crónicas no trasmisibles previas, como diabetes, hipertensión arterial, enfermedades respiratorias y obesidad. El conocimiento alrededor de este virus se fue construyendo en la medida en que fuimos atravesándolo, por lo que la medicina y todas sus especialidades tuvieron que hacer adaptaciones importantes en las formas de atención a los pacientes. La Odontología en lo

particular por tener una alta exposición al contagio está en constante revisión de sus protocolos de atención y normas de bioseguridad que son esenciales para una práctica segura tanto para el profesional como para los pacientes. Esta investigación, con un enfoque descriptivo transversal se realizó a través de la aplicación de una encuesta anónima, con el fin de determinar el nivel de conocimientos de los nuevos protocolos de bioseguridad a partir de la pandemia, se aplicó a 52 profesionales en Odontología en ejercicio y se realizó una comparación con respecto a las practicas realizadas antes de dicha pandemia.

Palabras clave: Odontología; Bioseguridad; COVID19.

INTRODUCTION

The health sciences changed dramatically when faced with an unknown virus; the highest viral load of the virus occurred in the first seven days of the onset of the disease and then significantly reduced after ten days; health personnel began to live with this virus for a long time and rigorous, routine and without exception biosecurity measures made all the difference in care. (2)

According to the Ministry of Health, more than 9 million people in Argentina have been reported as infected since the beginning of the pandemic in 2022, with the highest peak of confirmed cases between December 2021 and January 2022. These numbers are the most important data for the health sector as they alert us about the importance of constant review and study of the best biosafety practices. (2)

Dentistry is a health science where dental procedures have a high risk of exposure to viral pathogens that can be transmitted through the oral cavity and respiratory tract during face-to-face care and communication, which makes it one of the professions most exposed to SARS-CoV-2 infection. (3)

General objective

To determine knowledge of the new biosecurity protocols based on the Covid pandemic.

METHODS

El tipo de estudio que se llevó a cabo es descriptivo y transversal. Para ello, se seleccionó una muestra de N=52 odontólogos de ambos sexos, todos ellos graduados en una universidad pública o privada de Argentina y que aceptaron voluntariamente completar el formulario de la encuesta.

El estudio incluyó a aquellas personas que aceptaron voluntariamente responder las preguntas del formulario de la encuesta. Se excluyó a los dentistas que no utilizan redes sociales y a los estudiantes que han cursado parte de su carrera en el extranjero y están convalidando su título en una universidad nacional de Argentina.

El investigador llevó a cabo una encuesta anónima validada por expertos que se enviará por WhatsApp a través de un enlace utilizando Google Form como principal fuente de recopilación de datos.

Se consideraron los siguientes aspectos: «barreras de bioseguridad del dentista», «barreras de bioseguridad del paciente», «protocolos de bioseguridad utilizados antes de la atención», «tratamientos de atención realizados en una pandemia», «limpieza y desinfección de áreas comunes».

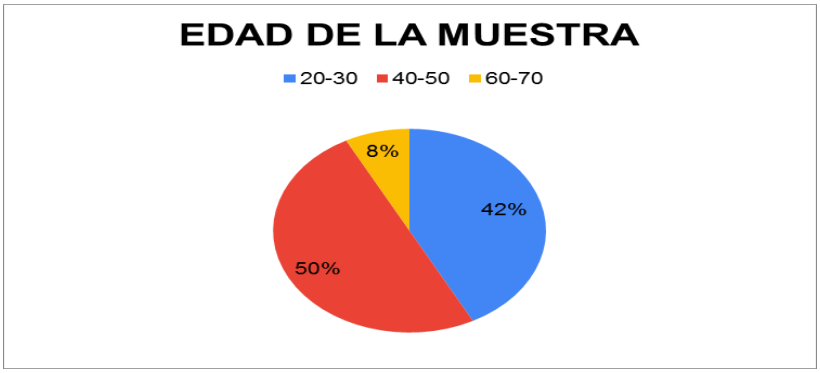
La encuesta constaba de 23 preguntas de opción múltiple y los resultados se procesaron utilizando Excel con técnicas estadísticas.

Se utilizaron gráficos y tablas con dos o más entradas y gráficos circulares.

RESULTS

From the statistical analysis of the results obtained in the survey, the following graphs can be observed:

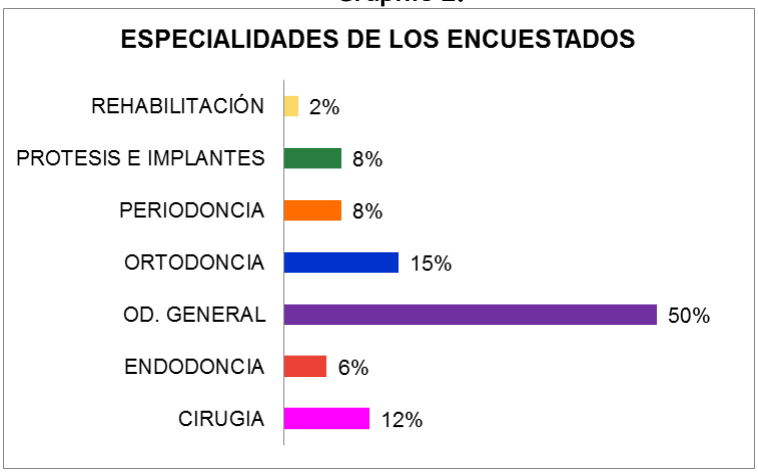
Graphic 1.



Source: Author's own creation.

Of all the respondents, 50% of the sample is in the 40-50 age range. 42% of the sample is between 20-30 years old.

Graphic 2.



Source: Author's own creation.

50% of the sample are general dentists. And the remaining 50% have some specialty, with orthodontics and surgery being the most common.

In this first part of the survey, the practices carried out during the pandemic by both dentists and patients are consulted.

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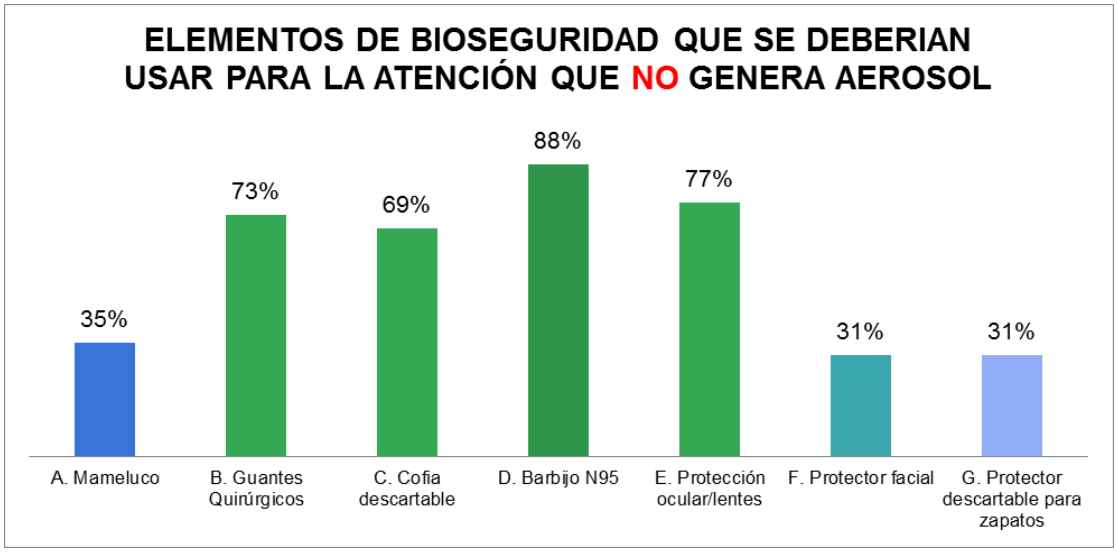
Graphic 3.

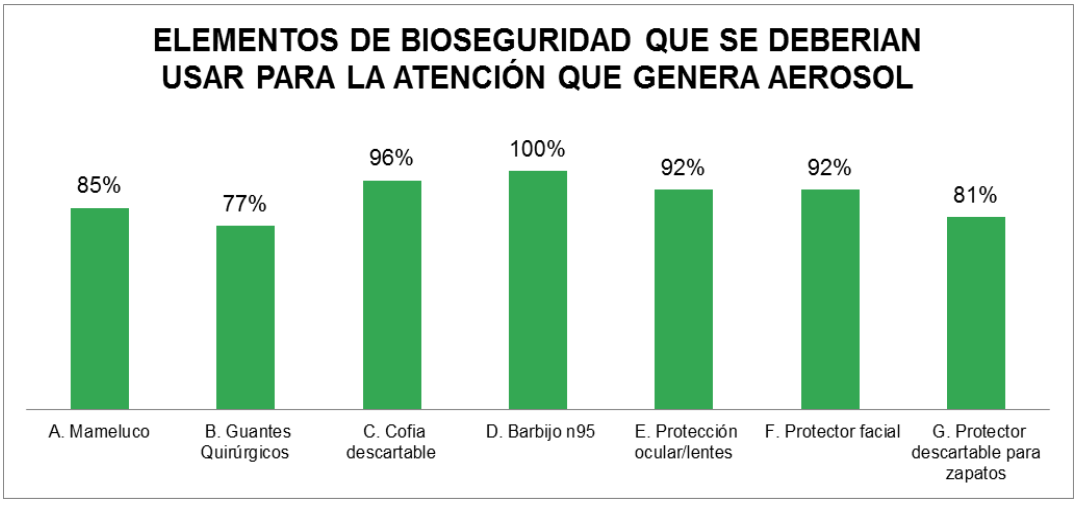


Source: Author's own creation.

On average, 76% of the professionals surveyed agree that gloves, a cap, a face mask, and glasses are the items that should be used for care in procedures that do not generate aerosol during the pandemic.

It is observed that 88% of the sample chooses the face mask as one of the priority elements for care. 4 of the seven answer options were chosen by the majority of the professionals surveyed.

Graphic 4.



Source: Author's own creation.

It can be seen in the graph that for those procedures that generate aerosol, each of the protective equipment listed as an option should be used by both assistants and dentists.

On average, 88% of the sample believes that these seven items of protective equipment should be present during treatment.

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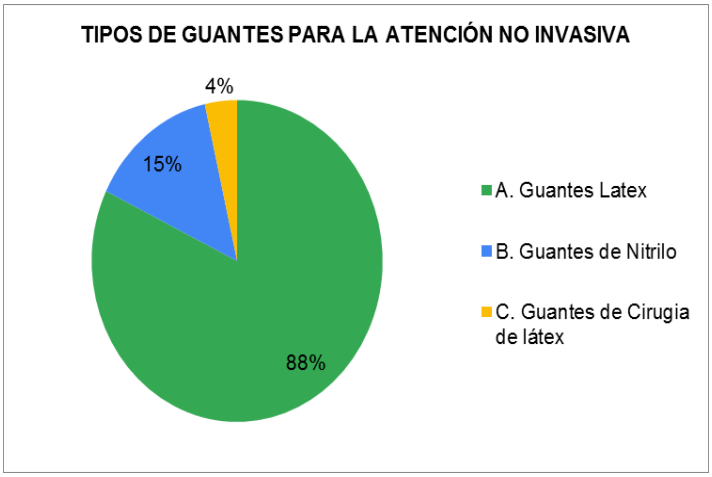
Graphic 5.



Source: Author's own creation

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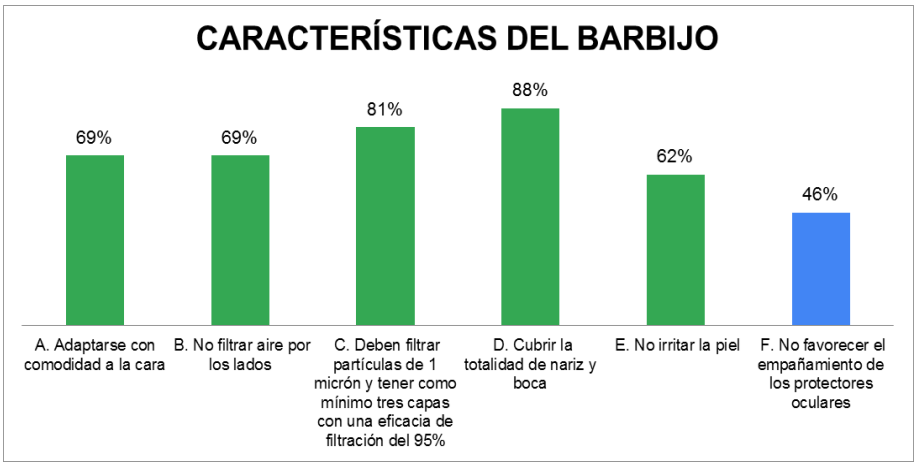
82% of those surveyed used latex gloves for dental care during the pandemic.

Graphic 6.



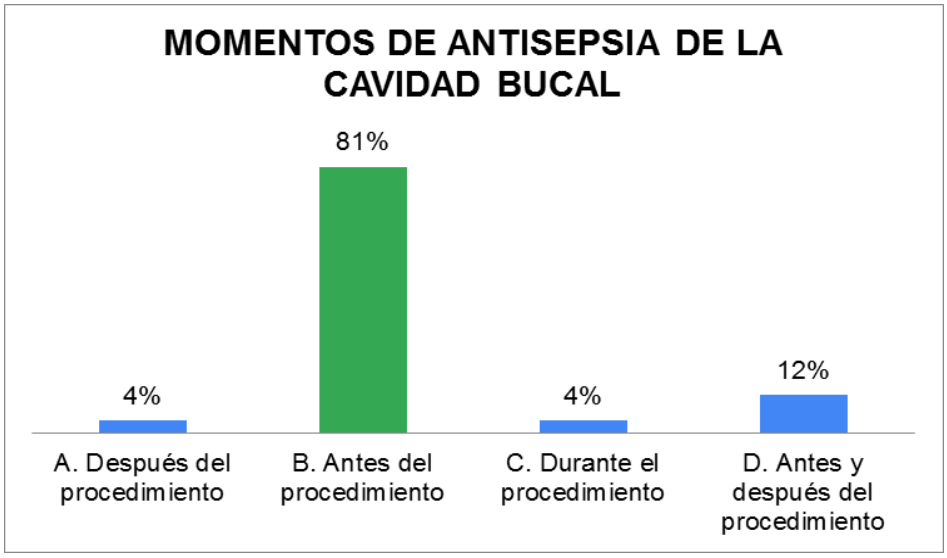
Source: Author's own creation.

The graph shows that one of the main reasons assistants and dentists should use the characteristics of the mask is that it covers the entire correct use of the mask.

Also, 81% are aware that filtering particles of 1 micron and the mask's three-layer construction guarantees the protection's effectiveness.

For their part, 69% agree that comfort and not filtering air is a relevant condition for this safety equipment.

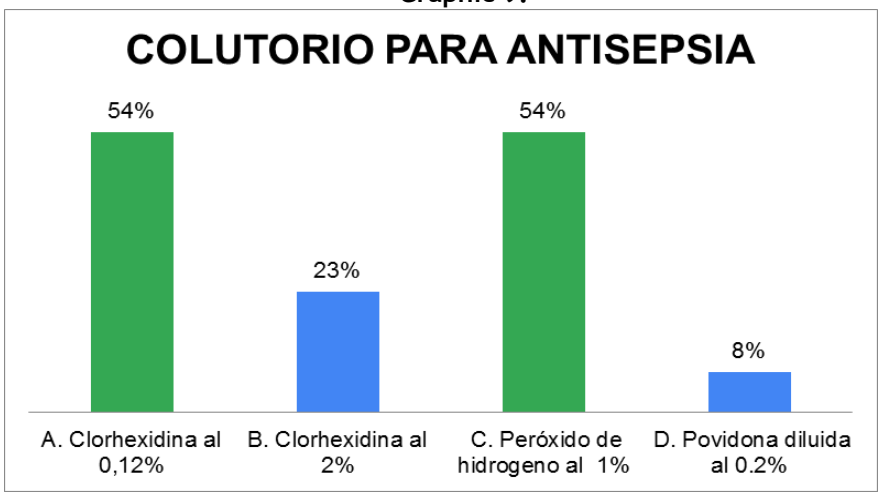
Graphic 8.



Source: Author's own creation.

With regard to the moments in which antisepsis of the oral cavity should be carried out, 81% agree that only before the procedure is the decrease in viral load guaranteed.

Graphic 9.



Source: Prepared by the authors.

For antisepsis of the oral cavity, 54% of those surveyed agree that it can be performed with 0.12% chlorhexidine as well as with 1% hydrogen peroxide.

In this part of the survey, dental professionals are asked about their biosecurity practices before the pandemic.

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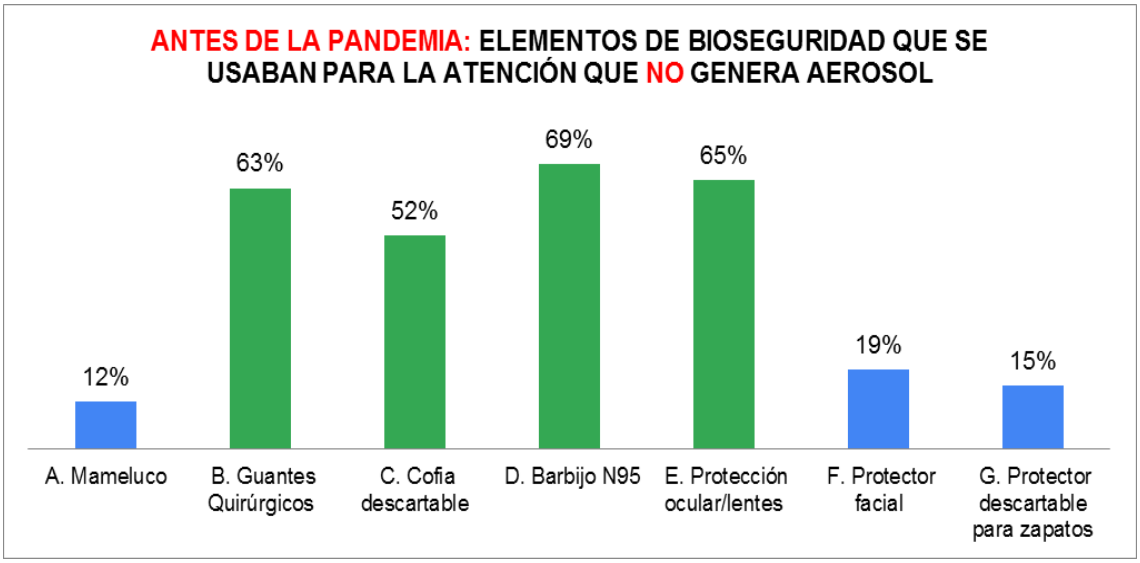
Graphic 10.

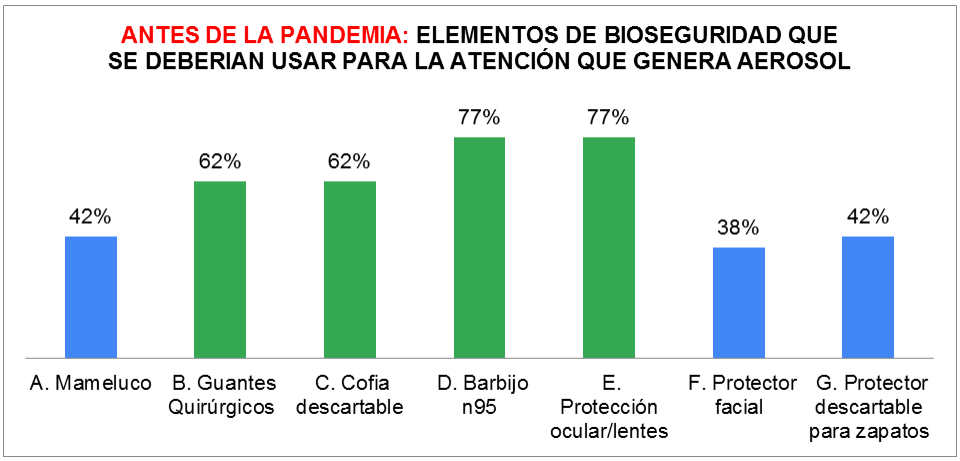


Source: Prepared by the author.

They were asked about seven biosecurity elements they used before the pandemic in procedures that did not generate aerosol. The options chosen by more than half, on average 62% of the sample, point to gloves, caps, face masks, and eye protection.

To a lesser extent, they state that coveralls, face shields, and shoe covers were also used.

Graphic 11.

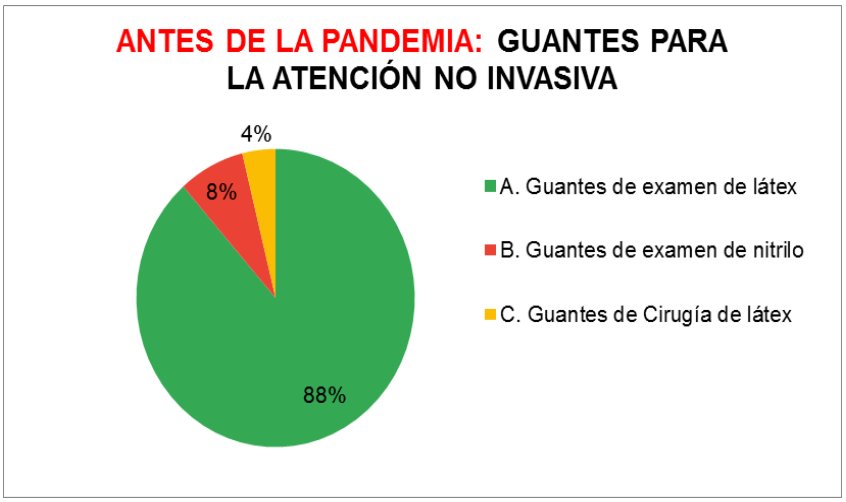


Source: Prepared by the authors.

Respondents were asked which of these seven items they used in aerosol-generating procedures, and more than 62% said the main ones were gloves, a hood, a mask, and eye protection.

We also observed that for these procedures, there is a high tendency to use overalls, face protection, and shoe covers.

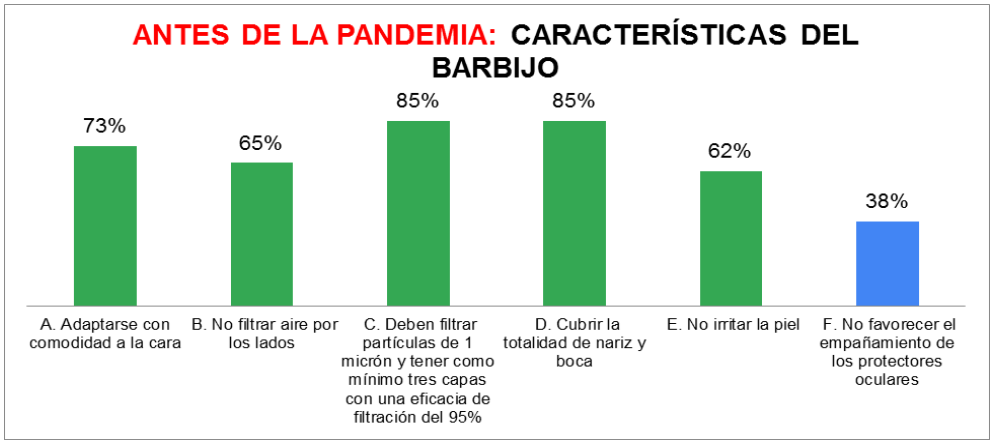
Graphic 12



Source: Author's own creation.

In this item, 88% assume that the most commonly used glove before the pandemic was the latex examination glove.

Graphic 13.



Source: Prepared by the author.

As the face mask is one of the most commonly used biosecurity elements in professional practice, we consulted on the characteristics it should have in order to be effective in protection; 73% said it should adapt to the face, 65% said it should not filter air, and 85% said it should filter particles through its three layers and completely cover the nose and mouth.

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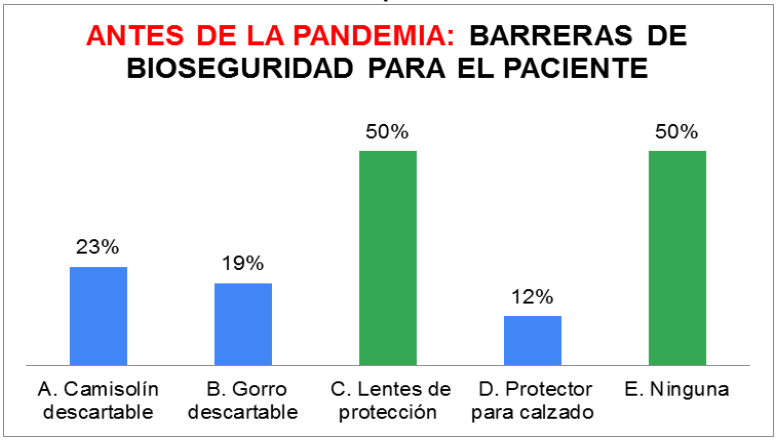
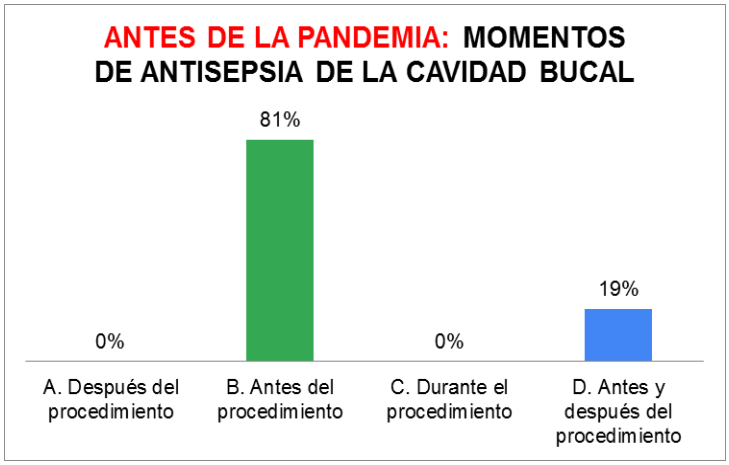
Graphic 14.



Source: Prepared by the author.

In this item, 50% of employees acknowledge having used protective eyewear. The remaining 50% state that they did not use biosafety elements for patients.

Graphic 15.



Source: Prepared by the authors.

In this item, the respondents were asked about the moment when antisepsis was carried out in the oral cavity, where 81% of the sample did so before each procedure.

It is also noteworthy that 19% stated that they did it at two moments, before and after the procedure.

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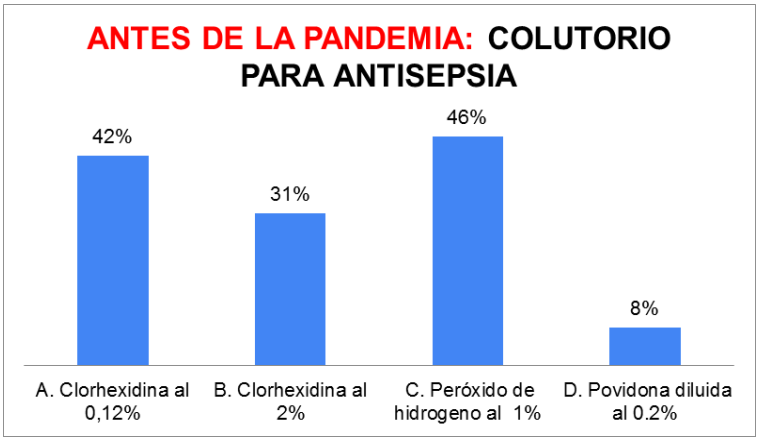
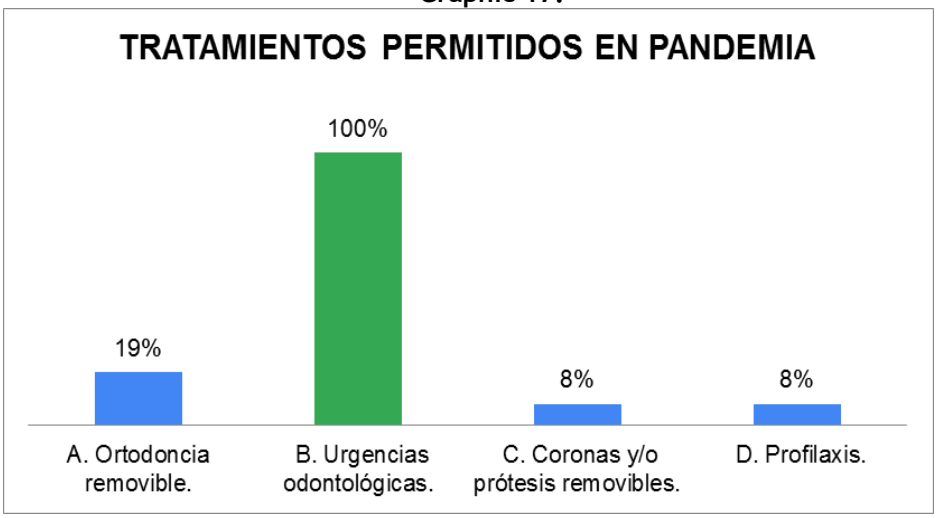
Graphic 16.



Source: Prepared by the author.

In this item, the range of responses was wide among each of the mouthwashes presented in the options. Where 46% pointed to hydrogen peroxide for antisepsis of the mouth, while the second most used option was 0.12% chlorhexidine.

Graphic 17.



Source: Prepared by the author.

Despite the fact that 100% of those surveyed agreed that only dental emergencies were treated during the pandemic. At the same time, they also included some other practices, although to a lesser extent.

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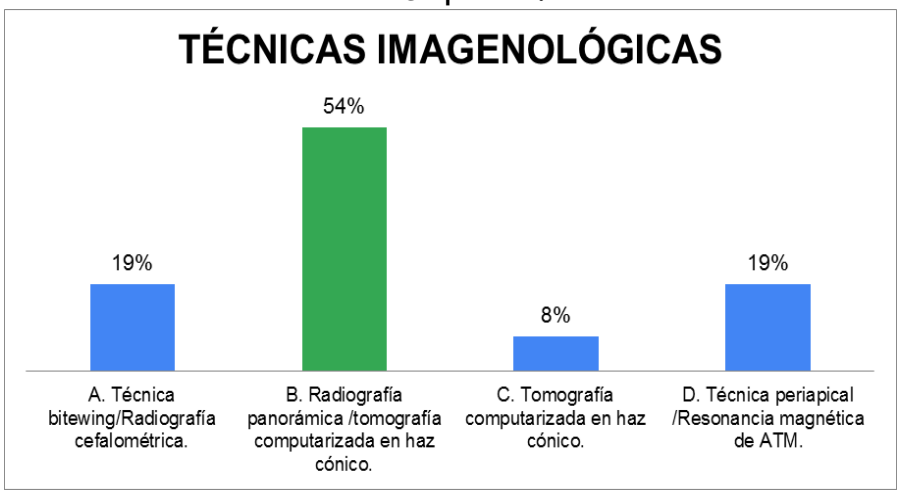
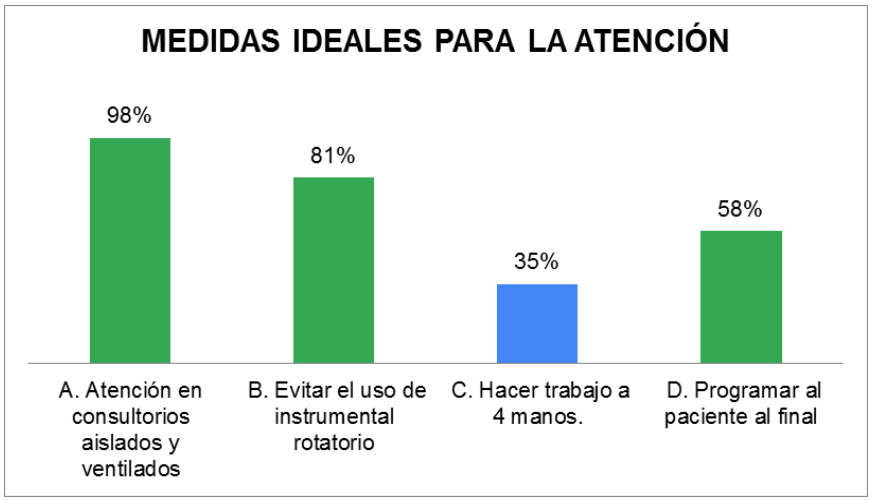
Graphic 18.



Source: Prepared by the author.

54% of the professionals consulted stated that panoramic radiography and cone beam computed tomography were the most widely used techniques during the pandemic.

Graphic 19.

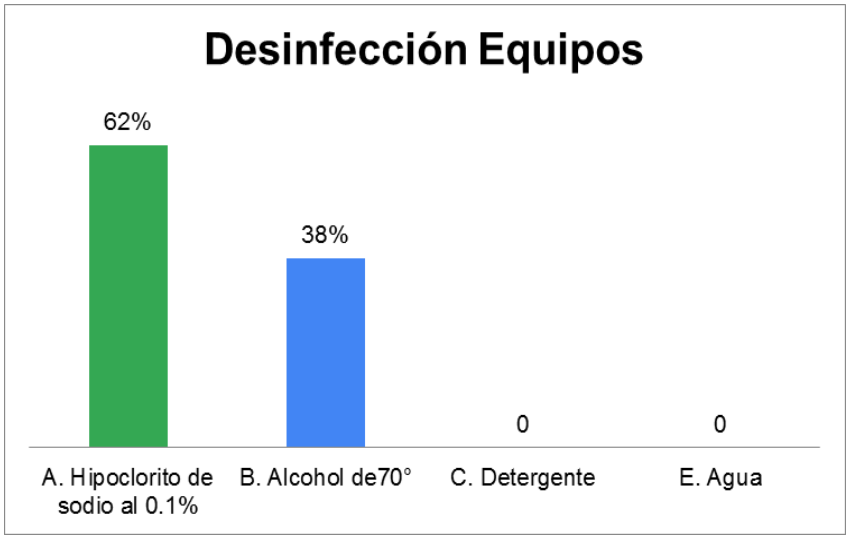


Source: own creation.

The survey included an item referring to the general processes of the office or care center, where 98% consider it important to work in isolated and ventilated spaces.

81%, meanwhile, referred to minimizing or avoiding the use of rotating instruments.

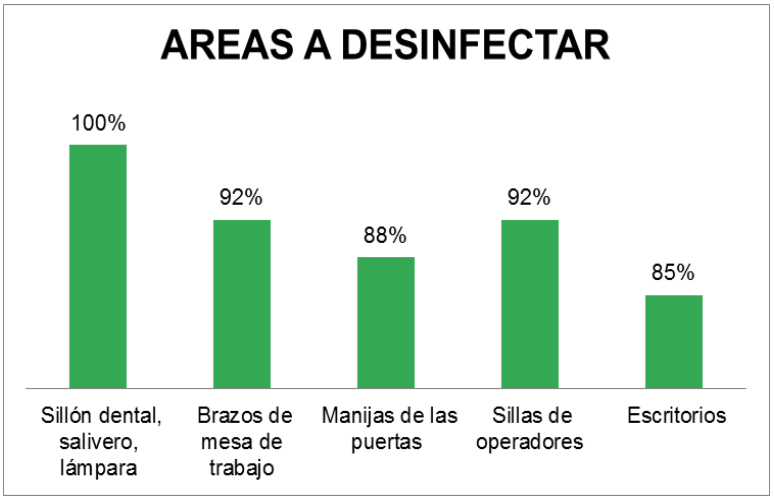
Graphic 20.



Source: Prepared by the author.

They were asked about the chemical substance recommended by the WHO for disinfecting equipment and 62% were inclined towards 0.1% sodium hypochlorite.

Graphic 21.



Source: Prepared by the author.

In response to this question, the majority of those surveyed stated that the disinfection of the main areas of the doctor's office should be a daily task during the pandemic. On average, 91% of those surveyed moved between the four options presented.

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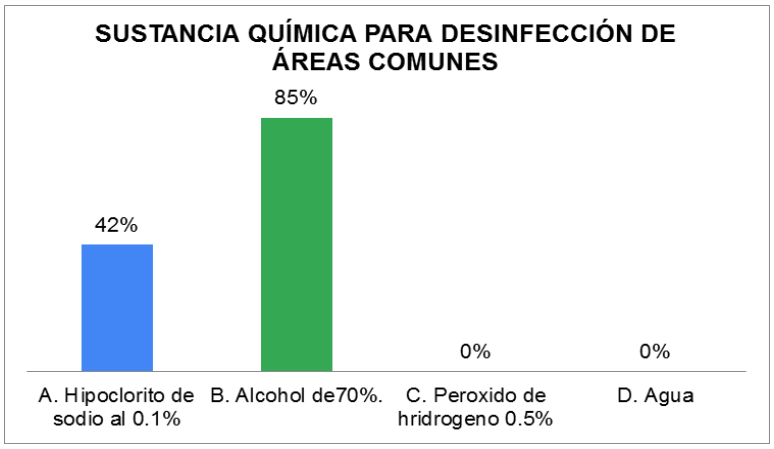
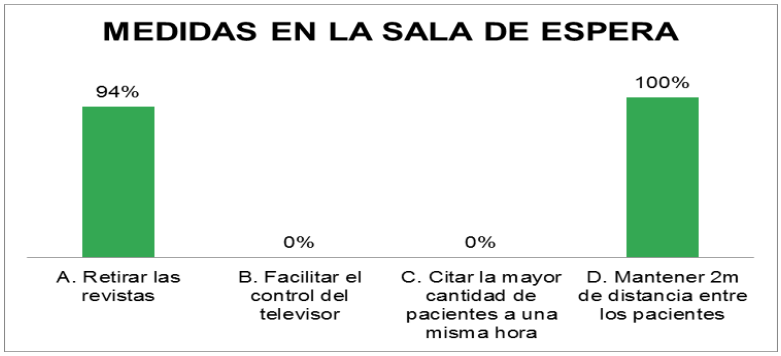
Graphic 22.



Source: Prepared by the author.

85% agree that 70% alcohol was the main substance used for cleaning and disinfecting common areas.

Graphic 23.

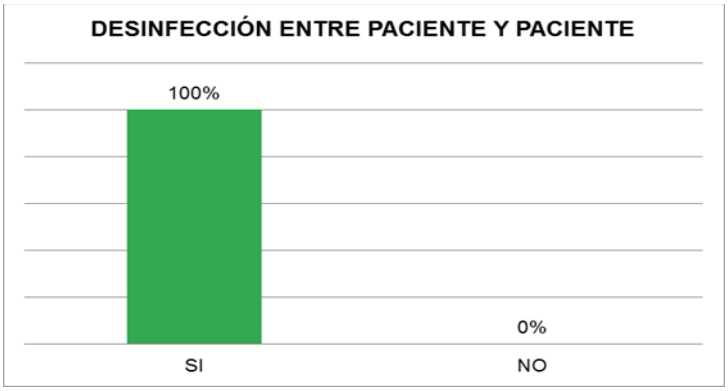


Source: Author's own creation.

The waiting room according to 100% of those surveyed stated that a distance of 2m was ideal for avoiding sources of infection and spread.

94% attached importance to not using magazines or any material that could be.

Graphic 24.



Source: Author's own creation.

They were asked about the disinfection of surfaces between patients and 100% agreed that it should be carried out in this way.

TABLE 1. Comparative table before and during the pandemic with regard to the use of biosecurity measures and the use of protective equipment.

SECURITY MEASURES	BEFORE THE PANDEMIC	DURING THE PANDEMIC
Protection of the Professional and the Assistant	Mandatory use: •Face mask •Latex/nitrile gloves •Hood •Coverall	Mandatory use: • N95 mask • Latex/nitrile gloves • Cap • Coveralls • Face and eye protection • Shoe covers
Patient Care	• Use of mouthwash: Chlorhexidine • Did not wash hands before providing dental care. • Did not wear PPE during the dental consultation.	Use of mouthwash (povidone or hydrogen peroxide) • Four-handed surgery. • Hand washing • Constant changing of gloves per consultation

https://doi.org/10.56294/piii2025398

Waiting room	**•They made appointments and attended in person. •Crowding of people • •Magazines were placed**	**• Prior triage (telephone and/or Internet). • Constantly ventilated area. • Separate seats (2 m) • Alcohol dispenser and/or alcohol gel (hands and footwear) • Use of mask compulsory**
Disinfectants	**For office environments: •0.1% sodium hypochlorite. For instruments: •Sterilization is carried out in an autoclave .**	**For office environments: •0.1% sodium hypochlorite •Soapy water, quaternary ammoniums, 70% ethanol For instruments: •Sterilization is carried out in an autoclave.**

Source: Author's own creation.

CONCLUSIONS

It was determined that the professionals surveyed, a sample of dentists with experience in different specializations, agreed in their responses regarding the new care protocols that arose from COVID-19. These protocols were used with a high level of knowledge of the biosecurity elements for both the professional and healthcare personnel as well as for the patient.

Furthermore, when comparing their practices before and during the pandemic, it was observed that there was already an internalized use of safety measures and barriers, although the context was new and to some extent unknown due to the magnitude of the virus we were going through, new elements were incorporated that made it possible to reduce the risk of contagion and spread of the pandemic.

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FINANCIAL SUPPORT

None.

CONFLICT OF INTEREST

None.

https://doi.org/10.56294/piii2025398