

## Original Research Article

# Effect of the Pandemic on the Frequency of Rubber-dam Use by Dentists: A Questionnaire Study

## *Pandeminin Diş Hekimlerinin Lastik Örtü Kullanım Sıklığına Etkisi: Bir Anket Çalışması*

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### ABSTRACT

**Aim:** This study aimed to compare the frequency of rubber-dam usage by dentists in different specialties before and after the Coronavirus Disease (COVID-19) pandemic.

**Materials and Method:** A questionnaire was delivered electronically to dentists in different specialties during May 2021. This questionnaire included questions about the demographics and professional backgrounds of the dentists and their opinions about and the frequencies of use of the rubber-dam. Additionally, whether their rubber-dam usage approaches were affected by the COVID-19 pandemic was also questioned.

**Results:** Seven hundred and fifty people responded to the questionnaire. Among the participants, 36.4% said that the frequency of using rubber-dams increased after the pandemic. Regardless of the specialty, the frequency of using rubber-dams decreased as the years of professional experience increased ( $p < 0.05$ ). When specialties were considered, endodontists used rubber-dams during endodontic and restorative procedures significantly more often than the others ( $p < 0.05$ ). When the workplaces were compared, it was seen that rubber-dams were used significantly more often in university clinics ( $p < 0.05$ ).

**Conclusion:** Despite the quality guideline recommendations, the use of rubber dams is still not at the desired level in Turkey; however, there has been an increase in the number of dentists using them since the pandemic.

**Keywords:** Pandemic; Rubber-dam; Questionnaires

### ÖZET

**Amaç:** Bu çalışma, farklı uzmanlık dallarındaki diş hekimlerinin koronavirüs hastalığı (COVID-19) salgını öncesi ve sonrasında lastik örtü kullanım sıklığını karşılaştırmayı amaçladı.

**Gereç ve Yöntem:** Mayıs 2021'de farklı uzmanlık dallarındaki diş hekimlerine elektronik ortamda bir anket gönderildi. Bu ankette diş hekimlerinin demografik bilgileri, mesleki geçmişleri, lastik örtü hakkındaki görüşleri ve kullanım sıklıkları hakkında sorular yer almaktaydı. Ayrıca, lastik ölçü kullanım yaklaşımlarının COVID-19 salgınından etkilenip etkilenmediği de sorgulandı.

**Bulgular:** İletilen ankete 750 kişi yanıt verdi. Katılımcıların %36,4'ü pandemi sonrasında lastik baraj kullanım sıklığının arttığını söyledi. Uzmanlık alanı ne olursa olsun mesleki deneyim yılı arttıkça lastik örtü kullanma sıklığının arttığı belirlendi ( $p < 0.05$ ). Uzmanlık alanları göz önüne alındığında, endodontistlerin endodontik ve restoratif işlemler sırasında diğerlerine göre önemli ölçüde daha fazla lastik örtü kullandığı görüldü ( $p < 0.05$ ). İşyerleri karşılaştırıldığında üniversite kliniklerinde lastik örtülerin anlamlı olarak daha sık kullanıldığı görüldü ( $p < 0.05$ ).

**Sonuç:** Kalite rehberi önerilerine rağmen Türkiye'de lastik örtü kullanımı hala istenilen düzeyde değildir; ancak pandemi başladıktan sonra bunları kullanan diş hekimlerinin sayısında artış olmuştur.

**Anahtar Kelimeler:** Anket; Lastik örtü; Pandemi

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## INTRODUCTION

The new type of coronavirus, which emerged in Wuhan, China, in December 2019, quickly spread to other countries. On January 30<sup>th</sup>, 2020, the World Health Organization announced that this epidemic posed a public health threat at the international level.<sup>1</sup> Compared to other coronaviridae, an important difference is that Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) has a long spike protein. The spike protein mediates the binding of the virus to the Angiotensin-Converting Enzyme 2 (ACE2) receptor and is important in determining the spreading capacity of the virus. The SARS-CoV-2 spike protein specifically recognizes the ACE2 in the host. Considering these, cells expressing the ACE2 receptor are considered to be at high risk for SARS-CoV-2 infection. The fact that the epithelial cells of the tongue, buccal mucosa, gingiva, and salivary gland ducts in the oral cavity have been shown to express high levels of ACE2 indicates that the oral cavity mucosa may be a potential risk route for the spread of SARS-CoV-2 infection.<sup>1,2</sup>

Although the main source of transmission is symptomatic patients, recent observations have shown that asymptomatic and pre-symptomatic patients are also carriers of SARS-CoV-2.<sup>3-5</sup> It has been explained that the transmission route is in the form of direct contact with person to person, through sneezing, coughing, and direct contact with mouth, nose, eyes and after contact with a contaminated surface.<sup>6</sup>

According to recent research, all people are susceptible to the virus. However, the risk is higher for healthcare workers.<sup>4</sup> Dentists are the occupational group most exposed to Coronavirus Disease (COVID-19) among healthcare professionals.<sup>7</sup> Dental environments are suitable for patient-dentist and patient-patient transmission. Patients who need dental treatments that require aerators or ultrasonic instruments cause their secretions to be dispersed into the air as an aerosol.<sup>4</sup> These remain suspended in the air for a long time before entering the respiratory tract through the mouth and nose. For this reason, the use of personal protective equipment is important in dental practice.<sup>8</sup> To prevent microorganism transmission, the Centers for Disease Control (CDC) recommends that all dental healthcare professionals should cover their body surfaces lined with mucous

membranes, such as the eyes, mouth, and nose, with personal protective equipment (gloves, masks, and goggles). In addition, the CDC recommends using a rubber dam to decrease the amount of aerosol formed in rotary instrument operations.<sup>9</sup>

A rubber-dam is a disposable rubber cover stretched around the tooth to isolate the treatment area from body secretions. In most dental clinics and hospitals, using a rubber-dam during restorative and endodontic treatment is considered a necessity.<sup>10</sup> The use of rubber-dam has also been associated with higher treatment success.<sup>11</sup> Additionally, Cochran *et al.*<sup>12</sup> and Samaranyake *et al.*<sup>13</sup> observed a significant decrease in bacterial atmosphere contamination due to the use of rubber-dam. A rubber-dam, which is a key component of good clinical practice, has become even more critical after the COVID-19 outbreak. Various researchers have emphasized the importance of using a rubber-dam, which reduces the particles contained in the aerosol by 70% and greatly reduces the risk of cross-infection.<sup>14</sup> The American Dental Association recommends using rubber-dam for almost any procedure that causes aerosol formation.<sup>14</sup> After the onset of the global epidemic, due to the possibility of the intense presence of the coronavirus in the oral cavity, the precautions to be taken during dentistry treatments were increased. Our literature review did not reveal any study which explored the awareness and frequency of using rubber-dams before and after the global epidemic. This study aimed to compare the frequency of using rubber-dams by dentists in different specialties before and after the pandemic.

## MATERIALS AND METHOD

### Ethical clearance

This survey was approved by the Gazi University Faculty of Dentistry Clinical Research Ethics Committee (GÜDHKAEK. 2021.05/1). The questionnaire was designed on Google Forms, and participation in the study was entirely voluntary.

### Participants and the inclusion and exclusion criteria

Dentists specialized in endodontics, pedodontics, and restorative dentistry, where rubber-dam usage is most frequently required, and general dentists

were included in the survey study. For sample size calculation, the type 1 error rate was set at 0.05, the type 2 error rate at 0.20 (corresponding to a statistical power of 80%), with a confidence level of 95% and a desired confidence interval of 7.5%. Since there is no article with similar findings to guide us (on rubber dam use and its change in the pandemic), a sample of all registered dentists proportional to their populations was calculated. A total of 750 individuals, including 172 endodontists, 141 pedodontists, 138 restorative dentistry physicians, and 299 general dentists and other specialties, participated in the study. Students were not included. Participants involved in the study were contacted through the Turkish Dental Association, the Turkish Society of Restorative Dentistry, the Ankara Chamber of Dentists, and social media in May 2021. Following consent, dentists filled the questionnaires electronically.

**The questionnaire**

The questionnaire was prepared in three parts. The first part explained the aims and objectives of the questionnaire to the participants and introduced the researchers; the second part consisted of questions on the demographic information of dentists, such as which specialty they work in, their professional experience, and their workplaces; and the third part,

which included questions regarding the structural content of the survey, inquired about information, such as opinions about the rubber-dam, frequency of rubber-dam use, and whether there has been a change in its frequency of use since the pandemic began.

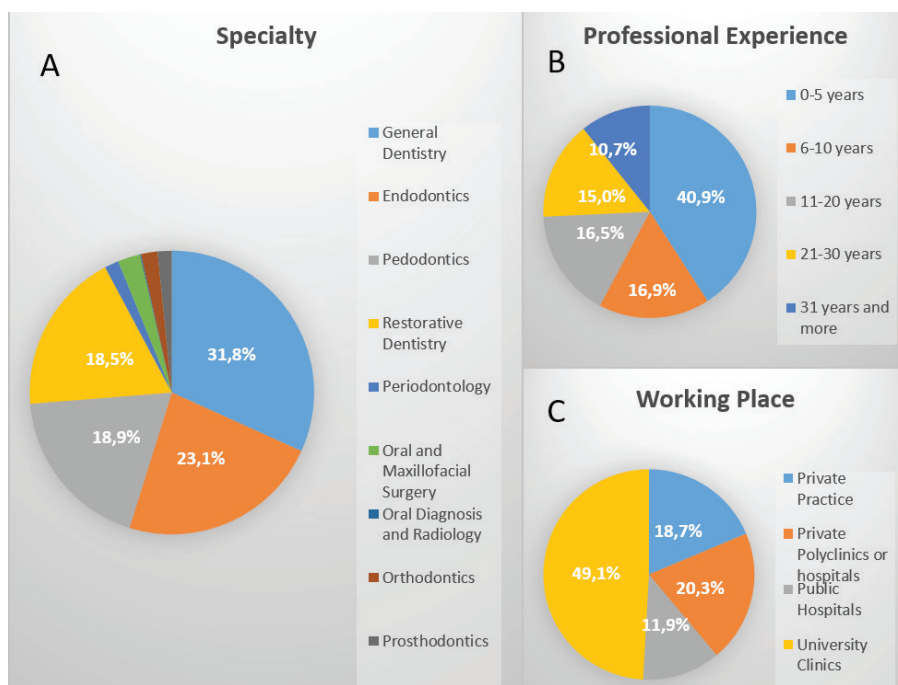
**Statistical analysis**

Descriptive statistics were performed for research variables. Frequency and percentage calculations were made for qualitative variables. Considering that the variables obtained in the study were predominantly qualitative, chi-square tests were applied for hypothesis testing. The statistical significance level was 0.05. IBM SPSS Statistics for Windows v.18.0 (IBM Corp., Armonk, NY, USA) and GraphPad Prism (Demo version 8.2.1 for Mac, GraphPad Software, La Jolla, CA, USA) software packages were used for data analysis.

**RESULTS**

**Descriptive results**

The dentists were grouped according to their professional experience, specialties, and workplaces. The results are shown in Figure 1.



**Figure 1.** (A) Fields of expertise of the dentists, (B) Professional experience of the dentists, (C) The places where the dentists work

**Analytical results**

a. Professional experience:

In the overall sample when the specialty was disregarded, the frequency of rubber-dam usage in endodontic treatment decreased statistically signifi-

cantly as the duration of professional experience increased ( $p < 0.05$ ). There was, however, no statistically significant difference between the increased professional experience and the frequency of use of rubber-dam for endodontists despite a trend for increased usage ( $p > 0.05$ ) (Table 1).

**Table 1.** Frequency of rubber-dam usage in endodontic procedures according to professional experience.

	In Endodontic Procedures			P-value
	Never Used	Occasionally Used	Always Used	
Professional Experience among the participants				<b>p &lt; 0.05</b>
0–5 years	51.8%	30.7%	17.5%	
6–10 years	58.1%	22.6%	19.4%	
11–20 years	54.7%	30.3%	15.1%	
≥21 years	77.0%	15.0%	8.0%	
Professional Experience Only among the Endodontists				<b>p &gt; 0.05</b>
0–5 years	46.6%	32.9%	20.5%	
6–10 years	43.2%	22.7%	34.1%	
11–20 years	32.3%	22.6%	45.2%	
≥21 years	45.5%	9.1%	45.5%	

**Table 2.** Frequency of rubber-dam usage during different procedures.

	In Restorative Procedures			P value	In Endodontic Procedures			P value
	Never Used	Occasionally Used	Always Used		Never Used	Occasionally Used	Always Used	
Specialty				<b>p&lt;0.05</b>				
General Dentists	59.0%	37.9%	3.1%		49.3%	38.2%	12.5%	
Pedodontist	46.4%	52.9%	0.7%		35.5%	57.4%	7.1%	
Endodontist	30.6%	60.6%	8.8%		2.9%	65.3%	31.8%	<b>p&lt;0.05</b>
Restorative Dentistry	24.6%	73.2%	2.2%		23.9%	68.6%	7.5%	
Working Place								
Public Hospitals	60.2%	35.0%	4.8%		56.0%	36.9%	7.1%	
Private Practice	55.1%	38.4%	6.5%		49.6%	43.8%	6.6%	
Private polyclinics or hospitals	53.3%	42.0%	4.7%		41.1%	50.4%	8.6%	
University Clinics	31.4%*	66.4%	2.2%		14.2%	63.0%	22.8%	<b>p&lt;0.05</b>
Using rubber-dam is always beneficial in restorative and endodontic procedures				<b>p&lt;0.05</b>				<b>p&lt;0.05</b>
Definitely disagree- disagree	42.1%	57.9%	0%		33.3%	52.8%	13.9%	
Indecisive	76.9%	23.1%	0%		76.9%	23.1%	0%	
Agree-Definitely Agree	41.8%	54%	4.2%		28.4%	55.6%	16%	

b. Specialties

The participants were asked about the frequency of rubber-dam usage when performing aerosol-generating procedures. Of the 170 endodontists, 2.9% reported that they never used a rubber-dam in endodontic treatments. Of the 138 restorative dentists, 24.6% reported that they have never used a rubber-dam. Moreover, among the participants who were general dentists and in other specialties, 49.3% stated that they had never used a rubber-dam in endodontic procedures, and this was true for 59% in restorative treatments (Table 2). When the results were stratified by specialties, the continuous use of rubber-dams was higher among endodontists ( $p < 0.05$ ).

When the changes in the frequency of rubber-dam usage among specialties after the pandemic were examined, the endodontists showed the largest increase (Table 3). There was no change in the frequency of use in the vast majority of participants in other specialties ( $p < 0.001$ ). Of all 750 participants, only 36.4% increased rubber dam use after the pandemic (Table 3).

c. Work Places

Nearly half of the participants were found to work in university clinics (Figure 1). When the frequency of rubber-dam usage was evaluated by workplaces, the percentage of those who never used a rubber-dam in endodontic procedures in university clinics was 14.2%. This difference was statistically significant compared to other work places ( $p < 0.05$ ). In addition, the percentage of those who never used a rubber-dam in university clinics in restorative procedures was 31.4%, which was statistically significant when compared with other work places ( $p < 0.05$ ) (Table 2).

d. Rubber-dam Effectiveness

The participants were asked to what level they agreed with the statement, "Using a rubber-dam is always beneficial in restorative and endodontic procedures." Of the dentists who participated in the survey, 56.7% answered, 'I strongly agree with the statement.' This result was not statistically significant when compared among the specialties ( $p = 0.115$ ). In other words, most of the dentists in different specialties agreed that using a rubber-dam is always beneficial. Despite that, among the dentists

**Table 3.** Changes in the frequency of rubber-dam usage after the COVID-19

		Oral and Maxillofacial Surgery	Pedodontics	Endodontics	Oral Diagnosis and Radiology	Orthodontics	Periodontology	Prosthodontics	Restorative Dentistry	No specialty	Total
Changes in the frequency of rubber-dam usage after the COVID-19	Decreased or No Change	100%	69.5%	38.8%	100%	92.9%	66.7%	75%	63%	72.8%	63.5%
	Increased	0%	30.5%	<b>61.2%*</b>	0%	7.1%	33.3%	25%	37%	27.2%	36.4%

\* $p < 0.001$

**Table 4.** Changes in the frequency of rubber-dam usage after the COVID-19 pandemic began.

	Decreased	No Change	Increased	P-value
Using a rubber-dam is always beneficial in restorative and endodontic procedures				
Definitely Disagree-Disagree	0.0%	68.4%	31.6%	
Indecisive	2.6%	97.4%	0.0%	
Definitely Agree-Agree	0.9%	60.2%	38.8%	<b>p &lt; 0.05</b>

in all specialties, there was a significant difference between those who used rubber-dams in restorative and endodontic procedures and those who believed that using rubber-dams was beneficial but did not apply them ( $p < 0.05$ ) (Table 2). In addition, the frequency of rubber-dam usage increased statistically significantly after the pandemic began among dentists from all specialties who agreed with the statement, "Using a rubber-dam is always beneficial in restorative and endodontic procedures" ( $p < 0.05$ ) (Table 4).

The participants were asked to what level they agreed with the statement, "As restorative and endodontic treatments are aerosol-generating procedures, applying rubber-dam reduces the possibility of cross-infection and protects both the dentists and the assistant staff from being infected." Of the dentists who participated in the survey, 89.7% strongly agreed with the statement.

e. Self-assessment

The participants were asked to self-evaluate their ability to use a rubber-dam with 4 ratings:

Level 0: I do not know how to use it

Level 1: I received training in different environments but never used it

Level 2: I know how to use it, but I cannot use it in difficult cases

Level 3: I can use it in any situation. I know four different techniques and alternative applications available in practice.

It was seen that 50% of the dentists with a skill level of 3 in the usage of rubber dams were endodontists (Table 5). Compared with other groups, the difference was statistically significant ( $p < 0.05$ ).

**Table 5.** Self-assessment of rubber-dam technique mastery degree by specialty.

Specialty	Level 0	Level 1	Level 2	Level 3	P-value
General Dentists	19.6%	20.3%	50.9%	9.3%	
Pedodontist	6.4%	12.9%	67.1%	13.6%	
Endodontist	0.0%	1.2%	48.8%	50.0%	<b>p&lt;0.05</b>
Restorative Dentistry	10.1%	5.8%	63.8%	20.3%	

**DISCUSSION**

Aerosol-generating applications in dentistry trigger cross-infections, and mouth micro-organisms cause contamination. For this reason, the importance of using personal protection equipment has been emphasized once again with the COVID-19 global epidemic. The use of rubber-dams in dentistry is an effective method to prevent cross-infection as it allows the aerosol to disperse into the air without being infected. The aim of this survey study was to reveal whether the frequency of rubber-dam usage has increased with the global epidemic and attract the attention of those who work in the profession.

The frequency of rubber-dam usage in endodontic procedures in the whole sample decreased statistically significantly as the professional experience increased ( $p<0.05$ ). Similar to the current study, Madarati *et al.*<sup>15</sup> reported that the frequency of rub-

ber-dam usage decreased as the professional experience increased. In support of this, Savani *et al.*<sup>16</sup> stated that it is easier for dentists who have been working for less than 10 years to adopt new technologies and the use of rubber-dams than dentists with more than 20 years of professional experience. The reasons why new dentists use rubber-dams more often may be that the current training they receive and the obligation of using them in the faculties. In the current study, there was no significant difference between the increase in professional experience and the usage of rubber-dams among the endodontists despite a trend for increased usage ( $p=0.81$ ). It can be thought that endodontists are more open to innovations in their fields and follow training and seminars more frequently and with interest.

When different specialties and the usage of rubber-dams were evaluated, quite different results were obtained in studies in different countries. In a

study conducted in the USA in 2014, it was concluded that 60% of dentists always use a rubber-dam.<sup>16</sup> In a survey of 392 non-specialized general dentists published in Turkey in 2020, it was reported that 3% of dentists always use a rubber-dam.<sup>17</sup> In the current study, the rate of dentists who reported always using a rubber-dam when performing root canal treatment was 14.9%, regardless of specialties. The reason for this may be the increase in the number of dentists using rubber-dams after the COVID-19 pandemic began. In addition, the presence of endodontists participating in the current study may have caused this rate to be high. When only the endodontists were evaluated, while 97.1% of the participating endodontists used a rubber-dam in their endodontic applications, only 5 (2.9%) stated that they never used rubber-dam. In a study in Brazil in 2017, in which only endodontists participated, 99% of the participants stated that they used a rubber-dam. The remaining 1% stated the reasons for not using a rubber-dam as cost and the time spent applying it.<sup>18</sup> However, another study reported that although applying a rubber-dam wastes time, the time spent changing the cotton may take more time.<sup>19</sup> In support of this, in a study conducted at the Hacettepe Faculty of Dentistry in 2006, the rubber-dam application time of Ph.D. students was 2 min 39 s, on average<sup>20</sup>, and in another study, the rubber-dam application time of the dentists was less than 2 min.<sup>21</sup> When the time that it takes to wait for the anesthesia to take effect was taken into account, it was clear that its use will not waste time, considering that the preparations for the rubber-dam can be made within this period. In other studies conducted to date, the second reason for refraining from using a rubber-dam has been reported as cost. This may be a valid reason in oral dental health centers and university clinics. In the current study, no data were obtained on cost. However, in our opinion, the main parts of the rubber-dam set, such as the clamps, forceps, and drills, can be purchased only once and used for many years, so it does not create a burden in terms of cost. The reason for these differences in the results in different countries may be due to the intensity of the education received and following technological innovations.

When workplaces were evaluated, as in a previous study which reported that the use of rubber-dams in private clinics was higher than in general hos-

pitals<sup>17</sup>, in the present study, 60.2% of the dentists working in general hospitals stated that they did not use rubber-dams in restorative treatments, and 56% did not use them in endodontic treatments. This rate was quite high when compared to other institutions, which may be due to the inability to obtain the rubber-dam. In addition, in the current study, it was seen that the rate of those who never used rubber-dams in endodontic procedures in university clinics was quite low (14.2%), just like in restorative treatment, while the number of those who used it all the time was statistically significantly higher than in the other groups (22.8%) ( $p < 0.05$ ). The reason for rubber-dam usage was significantly more common in university clinics may be because rubber-dam education is taken more seriously, and it is obligatory to apply it in some university clinics. In support of this, there are studies stating that more widespread courses and training on rubber-dams and the publication of articles on this subject increases rubber-dams' use.<sup>22</sup> Madarati *et al.*<sup>15</sup> reported that the rate of application was 71.4% in dentists who received training on the use of rubber-dams, and it was 35.5% in those who did not receive any training. Overall, more emphasis may have to be given to rubber-dam usage in training courses and seminars.

The current study inquired whether the dentists found the use of rubber-dams useful or not and whether the COVID-19 epidemic affected their frequency of use. When considering all participating dentists, 36.4% stated that the frequency of using a rubber-dam increased after the COVID-19 pandemic. In addition, it was seen that the frequency of use of rubber-dams increased statistically significantly after the COVID-19 pandemic among dentists from all specialties who agreed with the statement "Using a rubber-dam is always beneficial in restorative and endodontic procedures" ( $p < 0.05$ ). In general, it was found that the use of rubber-dams increased after the COVID-19 pandemic began. However, its use is not sufficient. In order to strengthen rubber-dam awareness and emphasize its importance, it was thought by the researchers who conducted this study that the frequency of use should be increased in Turkey by applying additional methods, such as courses, conferences and making legal arrangements.

When the participants were asked about their self-evaluations of rubber-dam usage ability, 10.8%

of the whole sample defined themselves as level zero. In other words, approximately 90% of the dentists received rubber-dam training in various settings. This finding may indicate that rubber-dam training is high in dental education in Turkey. However, the usage rates are still quite low. In a survey conducted in India in 2014, 94% of the participants stated that they knew how to use a rubber-dam, while only 30% stated that they used rubber-dam during root canal treatment.<sup>23</sup> Similarly, in the current study, it was seen that there was a significant difference between those who did not use rubber-dams even though they stated that they believed that the use of rubber-dams was beneficial ( $p < 0.05$ ).

Among the reasons for the low rates rubber-dam usage, there are studies showing that patients are uncomfortable and the dentists have struggled in applying it.<sup>24</sup> However, in many of the questionnaire studies, the patients stated that they were satisfied with the use of a rubber-dam during the treatment and that they wanted it to be used in their next appointments.<sup>21, 25, 26</sup> In one study, 77% of the patients stated that the treatment with a rubber-dam was more comfortable.<sup>21</sup>

In another study, 28% of dentists who did not use a rubber-dam in their treatment stated that they did not use it because they thought it was not necessary.<sup>27</sup> However, in recent studies, it has been increasingly emphasized that the use of rubber-dams is directly related to the success of the treatment<sup>11</sup> and the necessity of using it.

In a study conducted by Madarati *et al.*<sup>15</sup>, in which it was investigated why dentists do not use rubber-dams, 69.25% of the participants reported that they did not use a rubber-dam because they preferred other isolation methods. In the studies conducted since the beginning of the pandemic process, the use of hydrogen peroxide or povidone as a mouthwash before the procedure was investigated. Hassandarvish *et al.*<sup>28</sup> found that the use of povid-iodine at different concentrations reduced the viral load *in vitro*. Similarly, Bidra *et al.*<sup>29</sup> investigated the effect of hydrogen peroxide and povid-iodine solutions at different concentrations on the SARS-CoV-2 virus in an *in vitro* study. After both 15 and 30 s, povid-iodine antiseptic mouthwash was found to completely inactivate the SARS-CoV-2 virus at all 3 concentra-

tions (0.25%, 1.25%, and 1.5%). The overall results suggest that dentists prefer the use of mouthwash before the procedure when compared to rubber-dam usage because of its convenience. However, the bitter taste of the rinsing solutions and the limitations of use according to the allergic condition of the patient revealed once again that using a rubber-dam is safer. In addition, when a rubber-dam is used, the field of view in the treated area increases, the aspiration of the hand tools is prevented, and the use of agents with a sharp taste and odor is facilitated.<sup>30</sup> A rubber-dam is a much more realistic method when compared to mouth rinsing solutions in terms of other benefits, such as eliminating the tongue, lip, and cheek, which increases the dentist's field of view and the patient's comfort.

The expression 'better used' in the previously published quality guidelines is gradually being replaced by the expression 'must be used' after the COVID-19 pandemic began. One of the aims of this survey study was to investigate the scientific validity of this proposition. Our results showed that the frequency of rubber-dam usage has increased among specialists, especially in aerosol-generating endodontic and restorative procedures in Turkey after the global epidemic ( $p < 0.05$ ). There was, unfortunately, no increase among general dentists who performed aerosol-generating procedures.

According to the limited findings obtained from this study, ignoring the use of rubber-dams, even though it is believed that its application is beneficial, shows that the rubber-dam is not in the place it deserves. This result may indicate that the importance of using rubber-dams will not increase unless their use is obligatory. For this reason, the words "better used" in the quality guidelines mentioned at the beginning should be replaced with the words "must be used."

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