Evaluation of the pandemic biosafety protocol in a dental teaching clinic from the patient's perspective

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Abstract This study aimed to assess whether patients feel safe or anxious when receiving dental care at a teaching clinic; the study was carried out from the perspective of patients, given the biosafety protocol during the 2019 Coronavirus (COVID-19) pandemic. This cross-sectional study was carried out with 217 patients assisted by students in the Dental Clinic of the Pontifícia Universidade Católica do Paraná. A semi-structured questionnaire was used to collect sociodemographic data, humanization and the safety protocols followed during care. Multivariate analysis was performed using Poisson regression (PR), and p values ≤0.05 were understood. Around 90% of patients reported that students were attentive, communicative, welcoming and confident during treatment about the risk of contracting COVID-19 during care. Patients who showed anxiety during treatment were 32.2%. Some patients were unable to keep their distance in the waiting room (PR 3.439) and did not feel safe during the appointment (PR 2.64) had a higher prevalence of anxiety during dental care. Anxiety about care was associated with the individual's color or ethnicity, ability to maintain social distancing in the waiting room, and feeling safe when receiving care.
Descriptors: COVID-19. Containment of Biohazards. Dental Care. Empathy. Dental Anxiety.

Evaluación del protocolo de bioseguridad en la pandemia en una clínica de enseñanza odontológica desde la perspectiva del paciente
Resumen El objetivo de este estudio fue evaluar si los pacientes se sienten seguros o ansiosos al recibir atención odontológica en una clínica docente; el estudio se realizó desde la perspectiva de los pacientes, teniendo en cuenta el protocolo de bioseguridad durante la pandemia del Coronavirus 2019 (COVID-19). Se trata de un estudio transversal realizado con 217 pacientes atendidos por estudiantes de la Clínica Odontológica de la Pontificia Universidad Católica de Paraná. Se utilizó un cuestionario semiestructurado para recolectar datos sociodemográficos, humanización y protocolos de seguridad seguidos durante la atención. El análisis multivariado se realizó mediante regresión de Poisson (RP), con valores de p ≤0,05. Alrededor del 90% de los pacientes informaron que los estudiantes se mostraron atentos, comunicativos, acogedores y confiados durante el tratamiento sobre el riesgo de contraer COVID-19 durante el tratamiento. Los pacientes que demostraron ansiedad durante el tratamiento fueron el 32,2%. Algunos pacientes no pudieron mantener la distancia en la sala de espera (RP 3.439) y no se sintieron seguros durante la consulta (RP 2.64) y tuvieron mayor prevalencia de ansiedad durante la atención odontológica. La ansiedad con respecto a la atención se asoció con el color o el origen étnico del individuo, la capacidad de mantener el distanciamiento social en la sala de espera y sentirse seguro al recibir atención.
Descriptores: COVID-19. Contención de Riesgos Biológicos. Atención Odontológica. Empatía. Ansiedad al Tratamiento Odontológico.

Avaliação do protocolo de biossegurança na pandemia em uma clínica odontológica de ensino na perspectiva do paciente
Resumo O objetivo deste estudo foi avaliar se os pacientes se sentem seguros ou ansiosos ao receber atendimento odontológico em uma clínica-escola; o estudo foi realizado sob a perspectiva dos pacientes, tendo em vista o protocolo de biossegurança durante a pandemia do Coronavírus 2019 (COVID-19). Trata-se de um estudo transversal realizado com 217 pacientes atendidos por estudantes da Clínica Odontológica da Pontifícia Universidade Católica do Paraná. Foi utilizado

questionário semiestruturado para coletar dados sociodemográficos, sobre humanização e protocolos de segurança seguidos durante o atendimento. A análise multivariada foi realizada por meio de regressão de Poisson (RP), sendo compreendidos valores de p ≤0,05. Cerca de 90% dos pacientes relataram que os estudantes se mostraram atentos, comunicativos, acolhedores e confiantes durante o tratamento sobre o risco de contrair a COVID-19 durante o atendimento. Os pacientes que demonstraram ansiedade durante o tratamento foram 32,2%. Alguns pacientes não conseguiram manter distância na sala de espera (RP 3,439) e não se sentiram seguros durante a consulta (RP 2,64) tiveram maior prevalência de ansiedade durante o atendimento odontológico. A ansiedade em relação ao atendimento esteve associada à cor ou etnia do indivíduo, capacidade de manter distanciamento social na sala de espera e sentir-se seguro ao receber atendimento.

Descritores: COVID-19. Contenção de Riscos Biológicos. Assistência Odontológica. Empatia. Ansiedade ao Tratamento Odontológico.

INTRODUCTION

In December 2019, a cluster of pneumonia cases caused by β-coronavirus occurred in Wuhan, China[1]. The World Health Organization (WHO) officially named the disease as Coronavirus Disease 2019 (COVID-19). Recognized as a pandemic, COVID-19 is a threat to health systems[2,3]. Given this scenario, the safety of patients seen in healthcare facilities is a challenge[2]. Since dentistry is an area that works in contact with the patient's respiratory tract, dental surgeons are among the professionals with a high chance of being infected by COVID-19[4]. Dental professionals are under a potential threat during dental treatments due to their proximity during communication with the patient which can involve exposure to saliva, blood and other body fluids in addition to the use of sharp instruments, resulting in the production of contribution levels of salivary droplets and aerosols. In this critical process, understanding the spread of the virus and its importance in dentistry raises the need to apply some special measures in addition to those that are already standardized[5,6]. Therefore, routine dental care was temporarily suspended at the beginning of the pandemic until new biosafety protocols were developed[7].

The need to implement strict biosafety protocols for dental care in the face of COVID-19[8] aims to ensure the safety of dental care professionals, staff, and patients. Such recommendations should be adjusted to the epidemiological scenario, individual characteristics of the patient, type of procedure to be performed, access to personal protective equipment (PPE), and constant training of the team[9]. Undergraduate dental teaching clinics have a greater challenge because the flow of employees, teachers, students, and patients is large. The Brazilian Association of Dental Education prepared a manual for professionals working in teaching clinics and guiding biosafety measures, user flow, cleaning, and ventilation of the environment during the pandemic[10]. Thus, most dental teaching clinics need to reformulate their biosafety protocols to provide effective care and teaching[11].

In the dental clinic of the Pontifícia Universidade Católica do Paraná. (PUCPR), the strategy used was the training of the entire health team. A dental-care protocol was established. Among the new measures, we highlight the mandatory use of new PPE, such as the use of disposable aprons by students and teachers, the use of PFF2 or N95 masks to replace common procedure masks and the use of face shields, as well as reducing the concentration of people in clinics[12].

For its implementation, intense training with students, teachers, and employees was necessary. Structural adjustments were also carried out, such as installing hand sanitizer dispensers, physical barriers, reduced flow of people, and greater distance in scheduling appointments. In addition, the secretary service was reorganized, and an employee was assigned to organize and orient patients in the waiting room[12].

Despite the need for strict biosafety protocols, we emphasize the importance of ensuring humanized care such as patient welcoming, communication, and attention[13]. Being aware of the characteristics of the person being cared for increases the possibility of a professional/patient bond, which is an essential aspect of humanized care[14].

In this sense, the patient's perception should be evaluated. Studies have shown the satisfaction and feeling of dental anxiety in patients submitted to dental care in universities[15,16], aspects that have not been related to the system of care but to the clarifications, care, and welcoming performed by the student[17]. A professional concerned only with the technical procedure may not perceive manifestations of anxiety[18]. The pandemic can be an aggravating factor, as in a study where the issue of safety in the dental clinic was a factor that significantly increased anxiety during the COVID-19 pandemic[19].

To date, no studies have been found that assessed patient perceptions regarding safety and humanization practices in teaching dental clinics from the perspective of the COVID-19 pandemic. Hence, this study aims to evaluate the safety, anxiety, and welcome from the perspective of patients in the dental clinic of PUCPR after the change of biosafety protocol amid the COVID-19 pandemic, as well as identify the sociodemographic profile of patients seen at the PUCPR Dental Clinic during the COVID-19 pandemic and evaluate the variables associated with their feeling of safety of care, anxiety, and welcome.

METHOD

This study was approved by the Research Ethics Committee of PUCPR under opinion no. 4,137,950. This was a cross-sectional study, with data collected from patients scheduled to be examined by dental students at the PUCPR Dental Clinic. Free treatment is offered as part of the Unified Health System health care network.

Patients scheduled for dental care between June 2020 and June 2021 during the COVID-19 pandemic and aged 18 years or older were eligible for the study. Each patient was considered eligible for the study once. Patients with any cognitive limitation in answering the questionnaire by phone were excluded.

For the sample size calculation, the total number of patients seen in the dental clinic during the pandemic was considered, without age distinction, because the system report did not contain this information (n=1,857). The sample proportions were then calculated with 95% confidence. A value of $p = q = 50\%$ was admitted with a maximum sampling error of 6.33%, thus obtaining a sample size of 217. Sampling was performed by convenience, according to the list provided monthly by the PUCPR dentistry clinic's office. Up to three call attempts have been made. If the patient did not answer the question, the next name on the list was called. Of the 1,857 patients scheduled for the study period, 562 were contacted. Of these, 320 answered the calls (56.9%), 175 the contact was non-existent, and 67 did not answer the phone after three attempts. Of the patients who answered the calls, 98 did not meet the eligibility criteria, and five did not agree to participate in the study, totaling a final sample of 217 patients. The overall response rate was 46.7%.

Data collection was carried out by telephone, with the application of a semi-structured questionnaire involving questions related to socio-demographic conditions, satisfaction, humanization (welcoming, attention, and care provided during consultations), and perception of safety in the care taken to prevent coronavirus infection in the dental clinic of the institution. The semi-structured questionnaire was created by the authors based on the research objectives. It was not possible to carry out a pilot test. The collected data were stored on Google Forms.

Training of the researchers was conducted through mock interviews to standardize the approach. Patients who agreed to participate in the study gave their acceptance via the online form and received a copy of the informed consent form (ICF) via text message on their cell phone or by e-mail.

All statistical analyses were performed using the SPSS software v. 25.0 (IBM, Armonk, NY, USA). The sample was characterized by calculating the absolute and relative frequencies for dichotomous variables and measures of central tendency (mean and standard deviation) for continuous variables. Georeferencing of the city and health district (in the case of PUCPR patients) of the residence of patients seen in the dental clinic was performed on Google Maps.

The Chi-square test was applied, with values adjusted by the Bonferroni method, for the independent and dependent variables to select the variables for multivariate analysis using the Poisson Log-Linear Regression method with a robust estimator of the covariance matrix. The independent variables that presented a p-value <0.20 in the Chi-square test analysis were selected for initial inclusion in the regression model to obtain the prevalence ratio. Poisson regression was performed using backward elimination. In the final adjusted model, a p-value <0.05 and a 95% confidence interval were considered statistically significant.

RESULTS

Of the 217 patients who agreed to participate, five were not seen because they missed the appointment (2.3%), making the sample encompass 212 participants. The reasons for dental visits were pain (31%), revision (10.8%) and treatment (tooth whitening, restoration, evaluation, endodontics, extraction, etc.) (58,2%). It was observed that patients from all health districts of the city of Curitiba, Paraná (73.4%) and the respective metropolitan region (26.6%) were seen there.

Regarding the Sanitary District of residence of the patients in Curitiba the most frequent were: Cajuru (13.3%), Matriz (11.5%), Boa Vista (11%), Bairro Novo (9.2%), and Boqueirão (7.8%).

The mean age of the patients was 39±12.25 years, and only 3.3% were older adults. The other sociodemographic data collected are presented in Table 1. Most patients were women (64.6%), had white skin color/ethnicity (58.0%), a monthly income of 1 to 2 minimum wages (the lowest amount a company can pay its employees in Brazil by law) (54.7%), and an education equal to or greater than complete high school (69.3%). Regarding the means of transportation used to go to the clinic, most patients used their cars (42%), buses (25.3%), and transportation apps (14.6%). Others used other means such as walking, biking, and hitchhiking (18.1%).

Table 1. Sociodemographic characteristics of the sample. Patients visiting the PUCPR Dentistry Clinic from June 2020 to June 2021 (n=212).

Variables	n	%
Age (n= 210*)		
18 to 29 years	60	28.6
30 to 59 years	143	68.1
60 years or older	7	3.3
Gender		
Women	137	64.6
Men	75	35.4
Ethnicity or Skin Color		
White	123	58.0
Brown	67	31.6
Black	15	7.1
Other	7	3.3
Monthly income		
Less than 1 minimum wage	27	12.7
1 to 2 minimum wages	116	54.7
More than 3 minimum wages	69	32.5
Education		
Elementary school education	29	13.7
Incomplete high school education	36	17.0
High school education	71	33.5
Higher education	76	35.8

* There were sample losses on this issue.

Figure 1 presents the patient's perception regarding the biosafety measures adopted in the waiting room before entering the service. More than 90% of the patients stated that they felt safe regarding the risk of contamination by COVID-19, had received guidance to use and had worn a mask, had received guidance to and were able to keep their distance. Approximately 97% of the patients reported feeling safe. Regarding hand hygiene orientation, 16.3% stated they had not received an orientation to perform it.

Other data related to care, such as anxiety during appointments, perception of welcoming, satisfaction, and safety, are presented in Table 2. The percentage of patients who experienced anxiety during treatment was 32.2%. When asked about the reason, 18 (27.7%) said it was related to the pandemic, such as fear of contamination, 41 (63.1%) reported always being anxious, and six (9.2%) had personal problems. More than 90% of the patients pointed out that the

students were attentive and communicative and felt welcomed and safe during care (Table 2). A high level of satisfaction with the service was observed (94.8%).
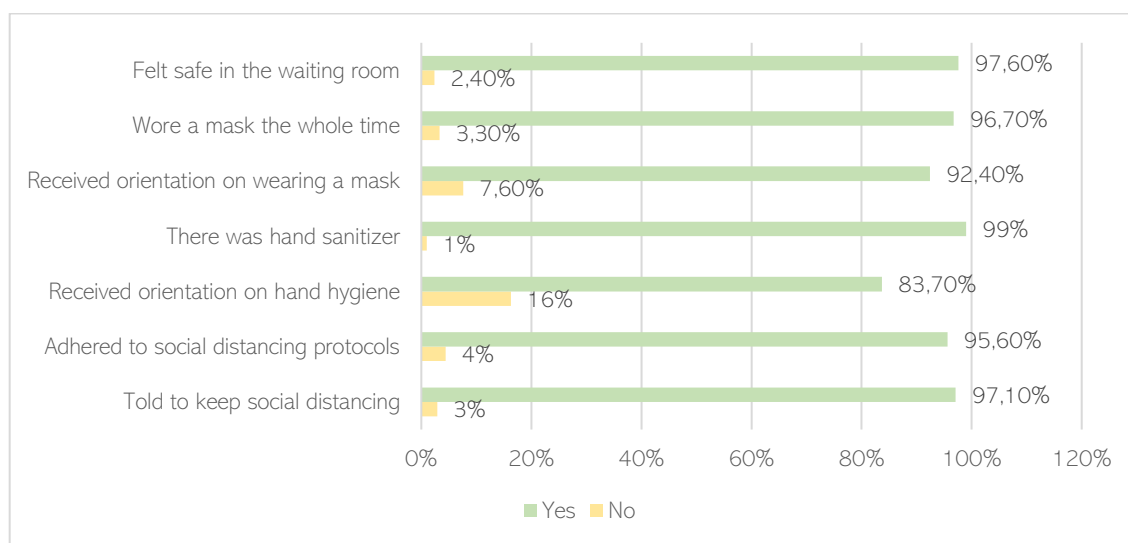
Figure 1. Patient perception of the biosafety measures adopted before receiving care. Patients visiting the PUCPR Dentistry Clinic from June 2020 to June 2021 (n=212).

Table 2. Data on the dental care of patients visiting the PUCPR Dentistry Clinic from June 2020 to June 2021 (n=212).

Variables	n	%
Felt anxious during treatment (n=211*)		
No	143	67.8
Yes	68	32.2
Attentive and communicative students		
No	9	4.2
Yes	203	95.8
You felt welcomed during the while treatment (n = 211*)		
No	6	2.8
Yes	205	97.2
Service classification		
Poor to fair	13	6.1
Good	48	22.6
Excellent	151	71.2
Satisfied with the treatment		
No	11	5.2
Yes	201	94.8
Received orientation on safety measures before treatment (n=209*)		
No	26	12.4
Yes	183	87.6
Felt safe during the service (n=210*)		
No	5	2.4
Yes	205	97.6

* There were sample losses on this issue.

Table 3 presents the associations between feeling safe during attendance and the independent variables found by the chi-square test. The variables selected for the adjusted model (p≤ 0.20) were age, skin color/ethnicity, maintaining distance in the waiting room, did they receive guidance to wear masks in the waiting room, did they wear masks all the time in the waiting room, did they feel safe in the waiting room, did they receive guidance on safety measures during

care, did they feel safe returning for care, anxiety during care, were students attentive and communicative, did they feel welcome during care, rating of care received, and satisfaction with care.

Table 3. *Association between feeling safe while receiving care and the independent variables in the Chi-square test. Patients seen at the PUCPR Dentistry Clinic from June 2020 to June 2021 (n=212).*

Variables	Did you feel safe during the service?		
	No	Yes	p
	n (%)	n (%)	
Gender			*0.458*
Women	4ᵃ (80.0)	131ᵃ (63.9)	
Men	1ᵃ (20.0)	74ᵃ (36.1)	
Age			*0.144*
18 to 29 years	0ᵃ (0.0)	59ᵃ (29.1)	
30 to 59 years	5ᵃ (100.0)	137ᵇ (67.5)	
60 years or older	0ᵃ (0.0)	7ᵇ (3.4)	
Ethnicity/Skin Color			*0.143*
White	3ᵃ (100.0)	118ᵃ (57.6)	
Brown	0ᵃ (0.0)	15ᵃ (7.3)	
Black	0ᵃ (0.0)	65ᵃ (31.7)	
Other	0ᵃ (0.0)	7ᵃ (3.4)	
Monthly income			*0.302*
Less than 1 minimum wage	2ᵃ (40.0)	25ᵃ (12.2)	
1 to 2 minimum wages	2ᵃ (40.0)	114ᵃ (55.6)	
More than 3 minimum wages	1ᵃ (20.0)	66ᵃ (32.2)	
Education			*0.680*
Elementary school education	0ᵃ (0.0)	29ᵃ (14.1)	
Incomplete high school education	1ᵃ (20.0)	35ᵃ (17.1)	
High school eductaion	2ᵃ (40.0)	68ᵃ (33.2)	
Higher education	2ᵃ (40.0)	73ᵃ (35.6)	
Number of consultations			*0.442*
1 to 2 appointments	1ᵃ (20.0)	82ᵃ (44.6)	
3 to 5 appointments	2ᵃ (40.0)	65ᵃ (35.3)	
6 or more appointments	2ᵃ (40.0)	37ᵃ (20.1)	
Told to keep social distancing			*0.586*
No	0ᵃ (0.0)	6ᵃ (3.0)	
Yes	5ᵃ (100.0)	197ᵃ (97.0)	
Maintained social distancing in the waiting room			*0.198*
No	1ᵃ (20.0)	8ᵃ (4.1)	
Yes	4ᵃ (80.0)	189ᵃ (95.9)	
Received orientation on hand hygiene			*0.659*
No	1ᵃ (25.0)	33ᵃ (16.3)	
Yes	3ᵃ (75.0)	170ᵃ (83.7)	
There was hand sanitizer in the waiting room			*0.753*
No	0ᵃ (0.0)	2ᵃ (1.0)	
Yes	5ᵃ (100.0)	199ᵃ (99.0)	
Received orientation on wearing a mask in the waiting room			*0.040*
No	2ᵃ (40.0)	14ᵇ (6.9)	
Yes	3ᵃ (60.0)	190ᵇ (93.1)	

Continues

Continuation

Wore a mask the whole time in the waiting room		*0.014*
No	1ª (20.0)	6ᵇ (2.9)
Yes	4ª (80.0)	199ᵇ (97.1)
Felt safe in the waiting room		*0.094*
No	1ª (20.0)	4ᵇ (2.0)
Yes	4ª (80.0)	197ᵇ (98.0)
Received orientation on safety measures during the service		*<0.0001*
No	4ª (80.0)	22ᵇ (10.9)
Yes	1ª (20.0)	180ᵇ (89.1)
Felt anxious during treatment		*0.020*
No	1ª (20.0)	142ᵇ (69.3)
Yes	4ª (80.0)	63ᵇ (30.7)
Students were attentive and communicative		*0.011*
No	2ª (40.0)	7ᵇ (3.4)
Yes	3ª (60.0)	198ᵇ (96.6)
You felt welcomed during the while treatment		*0.092*
No	1ª (20.0)	4ᵇ (2.0)
Yes	4ª (80.0)	201ᵇ (98.0)
Service classification		*<0.0001*
Poor to fair	3ª (60.0)	9ᵇ (4.4)
Good	2ª (40.0)	46ª (22.4)
Excellent	0ª (0.0)	150ᵇ (73.2)
Satisfactied with the service		*0.001*
No	3ª (60.0)	8ᵇ (3.9)
Yes	2ª (40.0)	197ᵇ (96.1)

*Same letters indicate that there is no relationship between the independent and outcome variables; different letters indicate that there is a relationship between them ($p \leq 0.05$).

White (PR 0.305) and brown (PR 0.027) patients felt less anxious than other ethnicities (Table 4). Patients who could not maintain their distance in the waiting room (PR 3.439) and did not feel safe during care (PR 2.64) had a higher prevalence of anxiety during dental care.

Table 4. Prevalence ratio between feeling anxious while receiving care and the associated independent variables. Model adjusted by the backward elimination method. Patients seen at the PUCPR Dentistry Clinic from June 2020 to June 2021 (n=212).

Variable	Felt anxious during treatment		
	p	PR	IC (95%)
Ethnicity or Skin Color			
White	<0.001	0.305	0.158 – 0.591
Brown	0.233	0.600	0.259 - 1.389
Black	0.027	0.474	0.244 – 0.920
Other	-	1	-
Maintained social distancing in the waiting room			
No	<0.001	3.439	2.475 – 4.779
Yes	-	1	-
Felt safe during the service			
No	0.007	2.640	1.305 – 5.340
Yes	-	1	-

p* - p<0.05 is statistically significant. PR - Prevalence ratio; CI - confidence interval at the 95% level. The tests were performed using the backward elimination method; only the variables a significant association were retained for the analysis.

DISCUSSION

During the COVID-19 pandemic, it was necessary to reformulate the biosafety protocols for dental care[8,9,11] In dental education, these protocols should be stricter considering the higher risk of contamination due to the high flow of people in shared clinical environments[8,10,20]. However, humanized care should be guaranteed, with the welcoming of the patient, clear communication, and attention[13], aspects that are part of the dental surgeon's competences[14]. This study found a high satisfaction and feeling of safety regarding the risk of COVID-19 infection in patients seen at thePUCPR dental teaching clinic.

Higher education institutions that offer undergraduate and graduate courses in dentistry have faced the challenge imposed by the presence of COVID-19, with measures aimed at establishing new protocols of care and restructuring physical facilities[21]. At the reception of clinics, the environment should be ventilated with spacing between waiting chairs[22]. According to the results of this study, more than 90% of the patients said they had received orientation on biosafety measures in the waiting room.

It is worth mentioning that protocol implementation success reflects an intense training of employees, teachers, and students. In this regard, dental students have been identified as the group for whom education in biosafety and cross-infection control is essential for proper training and compliance with protocols[23].

The new biosafety protocol established in teaching dental clinics will likely become permanent. Although the problem of contamination has always existed, health professionals have not always been aware of and willing to follow the necessary steps to minimize the risks[24]. The dental setting entails a heightened susceptibility to exposure to various agents, posing risks for both patients and healthcare professionals. Continuous evaluation, acquisition of knowledge, and dedicated study of biosafety are imperative for enhancing the quality of care and promoting health outcomes[25,26].

Patients with a lot of fear are known to be difficult for dentists and dental students to care for[27]. In the general population, almost 7% said they were very afraid of the service, while 13% reported feeling some fear. In Brazil, there is a prevalence of 15% among anxious dentists[28]. The present survey recorded 30.5%, more than twice as reported in the literature outside the pandemic context. The high prevalence of anxiety in interviewed patients may be related to the period of facing the pandemic, as some psychological disorders, such as anxiety disorders[29], may have triggered some psychological disorders.

Although the relationship between the feeling of safety and welcome during care did not show statistical significance, the p-value was borderline. It is known that this p-value should not be interpreted as indicating that there is no difference; it only indicates that there is insufficient evidence to reject the null hypothesis, so there may be no true difference between the groups[30]. Therefore, a discussion of these findings is appropriate. It was observed that most patients who felt well-received during the care were those who stated that the professionals were attentive and communicative. Welcoming has a fundamental role and should occur from the moment they enter the clinic until they leave the health service[14].

Patients who received orientation on safety measures during the service reported feeling more welcome and safer. The satisfaction and feeling of dental anxiety of patients submitted to dental care in universities have not been related only to the care system, but also to the clarifications, care, and welcoming performed by the dentist[15–17]. It is observed that a professional concerned only with the technical procedure may not perceive manifestations of anxiety and, therefore, does not offer immediate support to the patient[18].

This study also sought to determine the profile of patients seen at the PUCPR dentistry clinic. Most patients were women, which is consistent with the literature. In a previous study analyzing the profile of patients in university dental clinics, the prevalent gender was also women, ranging from 70.7%, 65%, and 56.6[31]. This greater demand for health services by women may be associated with cultural or social issues; women are usually responsible for accompanying their children and older adults to the doctor[31]. Culturally, men are often seen as individuals who are less prone to illness and therefore do not need medical attention. Consequently, there is a predominant tendency for women to seek health services preventively, as they have greater self-awareness regarding their health problems[32,33]. Brown and white ethnicities were

the greatest users of dental procedures available at [texto ocultado], in agreement with the study by Peres et al., describing that the brown population uses more public health dental services [34], because they have a higher prevalence and severity of oral diseases. The prevalence of oral diseases (ODB) may be linked to social disparities, as evidenced in a study conducted in São Paulo, Brazil, wherein individuals with lower educational attainment, non-Caucasian ethnicity, and reduced family income exhibited the highest ODB. The estimation of ODB encompassed parameters such as caries rate, tooth loss, demand for dental prosthetics, and periodontal status[35]. The most prevalent age group of adults seen in the clinic in this study was between 30 and 59 years old, regardless of sex. The low frequency of older patients (3.3%) draws attention due to the fact that there were restrictions on the treatment of this age group because it is considered a high-risk group[36.]

It was found that the PUCPR dentistry clinic receives patients from several regions of the city and the metropolitan region of Curitiba, but the largest number of users are people who live nearby, reflecting what has been found in a study that analyzed the access of users of a basic reference unit, in which the users who most frequently live nearby[37]. The high number of patients who sought the services of the PUCPR Dental Clinic during the pandemic coming from several regions of Curitiba and the metropolitan region is possibly due to the basic units being closed or attended only to emergencies or tele-consultations[38] for a long period, justifying the high demand of the clinic.

The present study has some limitations. However, this is still relevant because it is one of the pioneering studies to evaluate biosafety protocols in educational institutions during the pandemic. Data collection was carried out as patients were seen, which was a convenience sampling method. Thus, the results should be viewed with caution because the individuals did not have a known chance of participating in the study, and selection bias may occur[39]. However, non-probability convenience sampling was more efficient in terms of the urgency of research[40] during the pandemic.

The overall response rate was 46.7%, which is lower than that usually recommended to ensure the generalizability of the results. However, it has already been reported that the response rate can drop from 25% to 30% when questionnaires are conducted by telephone[41]. The circumstances of the pandemic may also be related to the lower response rate of this survey.

CONCLUSION

It was possible to conclude that the implementation of new biosafety protocols in a dental teaching clinic, in response to the COVID-19 pandemic, resulted in a high perception of safety among patients. Anxiety during appointments was found to be associated with skin color/ethnicity, maintaining distance in the waiting room, and feeling secure during the procedure. The recommendation to include guidelines on safety measures in patient reception protocols stands out as an important practical implication. Thus, this research provided valuable insights into the dynamics of dental care during a pandemic, contributing to the enhancement of the quality and effectiveness of healthcare services.

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