Pesquisa Brasileira em Odontopediatria e Clínica Integrada 2025; 25:e240158
https://doi.org/10.1590/pboci.2025.090
ISSN 1519-0501 / eISSN 1983-4632

ORIGINAL ARTICLE

Perception of Oral Health Assistants and Technicians Regarding Dental Care for People with Disabilities

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Academic Editor: Wilton Wilney Nascimento Padilha

Received: August 28, 2024 / **Review:** September 30, 2024 / **Accepted:** November 06, 2024

How to cite: Rosa SV, Corrêa EG, Pompermayer AB, Souza VB, Vettorazzi MLT, Girata DCC. Perception of oral health assistants and technicians regarding dental care for people with disabilities. Pesqui Bras Odontopediatria Clín Integr. 2025; 25:e240158. https://doi.org/10.1590/pboci.2025.090

ABSTRACT

Objective: To evaluate the perceptions of oral health assistants and technicians regarding dental care for people with disabilities in Paraná. **Material and Methods:** This was a cross-sectional study in which self-reported data about the perception of dental care for people with disabilities were collected via a semi-structured questionnaire to oral health assistants and technicians in Paraná. The questions addressed sociodemographic data, training, and knowledge about caring for people with disabilities. Data collection took place during the year 2023 and the questionnaire was sent to participants online. The data were analyzed via descriptive statistics and the chi-square test. **Results:** A total of 160 responses were obtained, the majority of which were from women (97.5%), self-declared white (37.5%), married (49.4%), with an average age of 38.3 years. Concerning training, 40% were assistants and technicians in oral health, and 82.5% worked in the public sector. There was a significant difference ($p<0.05$) between public and private institutions if the professional had a subject or class during their training that dealt with the subject of dental care for people with disabilities. **Conclusion:** Oral health assistants and technicians clearly understand dental care for people with disabilities.

Keywords: Persons with Disabilities; Health Services for Persons with Disabilities; Oral Health; Perception.

Introduction

According to the World Health Organization (WHO), the number of people with some disability worldwide has reached one billion [1]. Caries disease and periodontal disease may be more prevalent in people with disabilities (PWDs), which may be linked to barriers found in accessing dental services. Furthermore, oral health may often not be a priority when general health demands more daily care [2].

The main barriers encountered by people with disabilities concerning their oral health are related to access to and accessibility to oral health services. Regarding accessibility, architectural barriers such as stairs, inaccessible bathroom doors, a lack of handrails for support, and difficulties communicating with the dentist are found. Fear of dental care can also be a barrier to access, as can the professional unpreparedness of the oral health team for dental care for people with disabilities [2-4].

The oral health team must be prepared to provide dental care to people with disabilities, from reception to providing care based on their particularities [5-7]. Some oral health team members are oral health assistants (OHA) and technicians (OHT). The profession of OHA and OHT is regulated by law number 11,889 of December 24, 2008 [8]. Among the functions performed by the OHA and OHT, the most notable are carrying out oral hygiene activities, preparing the patient for care, preparing the dental office for care, welcoming the patient, and working on oral health promotion and education [9,10].

As part of the oral health team and with well-defined roles, the OHA and OHT will participate in dental care for individuals with disabilities. They are responsible for welcoming the patient throughout all life cycles, from babies to older adults and their families and/or caregivers, preparing the dental environment to receive the patient, carrying out oral hygiene instructions based on the patient's particularities, and helping them move to the dental chair, providing the best and most comfortable position during care. When necessary, they assist in using protective stabilization and assistive technologies; to do so, they must have skills and know how to manage them [6].

No studies have yet addressed the knowledge of oral health assistants and technicians regarding dental care for people with disabilities, which is why this study is being proposed. Thus, this study aimed to evaluate the perceptions of oral health assistants and technicians regarding dental care for people with disabilities in Paraná.

Material and Methods

Study Design and Ethical Clearance

This cross-sectional study was carried out with assistants and technicians in Oral Health who practice the profession in the state of Paraná, Brazil. Data collection took place in 2023 after approval by the Ethics Committee involving Humans at *Instituto Federal do Paraná*, with approval under opinion number 5,950,236.

Sampling

The inclusion criteria were people over 18 who could answer the questionnaire online via Google® forms and had training as an oral health assistant and/or oral health technician. The exclusion criteria were those who did not complete the course (dropouts or students), who no longer performed the functions of oral health assistants and/or oral health technicians, or who did not perform it in the state of Paraná.

According to the Brazilian Federal Council of Dentistry website, the number of oral health technicians registered with the council in Paraná is 2,215, and that of oral health assistants is 8,318 [12]. Based on this

previous information, a sampling design was initially planned. A margin of error of 5% was used, with a confidence level of 95%, so the sample calculation was 371 respondents.

Data Collection

For this data collection, the self-report technique was used through the application of a semi-structured questionnaire [11] involving questions related to sociodemographic data, training as assistants and technicians in oral health, and knowledge about dental care for people with disabilities. The questionnaire was sent to participants online via Google® forms, through digital platforms, social networks, and e-mails, where the data was stored for five years after collection completion and was permanently discarded following Microsoft® criteria.

Data Analysis

The data were analyzed via descriptive statistics (absolute and relative frequency, mean, standard deviation, and median) according to the nature of the variable and the chi-square test via Statistical Package for the Social Sciences, version 25.0 (IBM Corp., Chicago, IL, USA).

Results

After providing informed consent, 171 subjects agreed to respond to the survey, of whom 11 did not practice in Paraná and did not continue to respond to the questionnaire as they met the exclusion criteria. Considering the sample calculation, the survey response rate was 43.1%. Figure 1 shows the map of the state of Paraná with the distribution of the origin of the survey respondents.

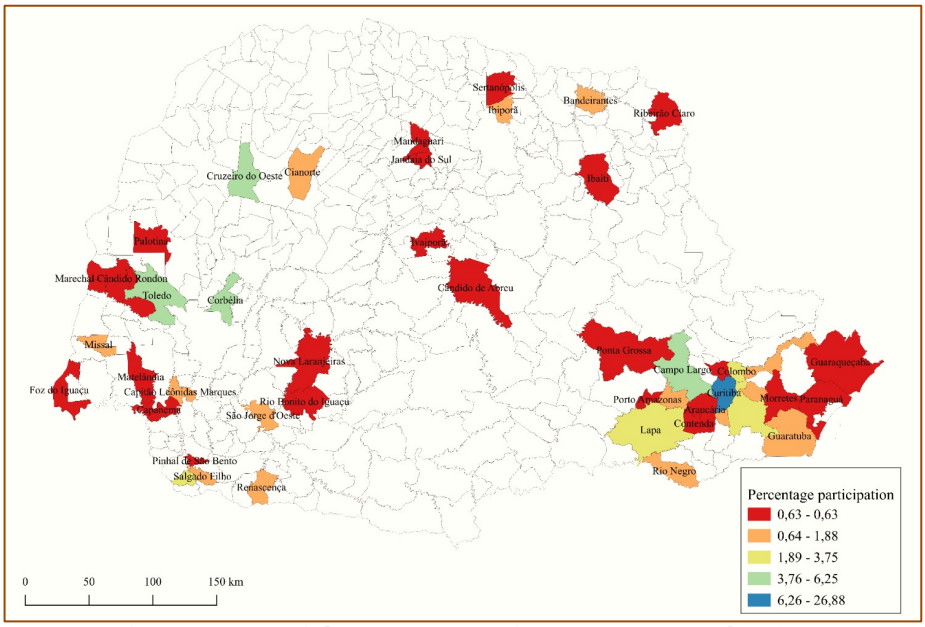

Figure 1. Map of the percentage of survey responses by city.

Table 1 shows the characteristics of the research subjects, with the majority being women (97.5%), self-declared white (37.5%), married (49.4%), and with income between one and two Brazilian Minimu Wage (70%), with an average age of 38.3 years. For training, 40% were assistants and technicians in oral health, with an average of 12 years of professional experience. Approximately 82.5% worked in the public sector.

Table 1. Characteristics of research subjects and perception of dental care for people with disabilities.

Variables	N	%
Sex		
Female	156	97.5
Male	4	2.5
Age: 38.3 years (Minimum = 20 / Maximum = 62)		
Color/Race (Self-declared)		
Yellow	4	2.5
White	108	67.5
Indigenous	1	0.6
Brown	37	23.1
Black	10	6.3
Marital Status		
Married	79	49.4
Divorced	11	6.9
Single	52	32.5
Stable union	18	11.3
Income		
No income	1	0.6
Less than 1 BMW	4	2.5
1 to 2 BMW	112	70
2 to 3 BMW	31	19.4
3 to 5 BMW	9	5.6
5 to 10 BMW	1	0.6
More than 10 BMW	2	1.3
Training		
Oral Health Assistant	68	42.5
Oral Health Technician	28	17.5
Oral Health Assistant and Technician	64	40
The institution where you took the OHA and OHT courses was		
Public	86	53.8
Private	74	46.3
Do you currently practice the profession?		
Yes	156	97.5
No	4	2.5
Are you registered with the Regional Dentistry Council?		
Yes	150	93.8
No	10	6.3
Time in the profession (average)		
12 years (min. 0.1 max. 36)	-	-
Do you work in the sector		
Public	132	82.5
Private	28	17.5
Do you consider your workplace to be architecturally accessible?		
Yes	100	62.5
No	60	37.5
Does where you work serve People with Disabilities?		
Yes	149	93.1
No	11	6.9
During your OHA and/or OHT course, did you take any classes and/or subjects about caring for people with disabilities?		
Yes	95	59.4
No	65	40.6
Do you know what Assistive Technologies are?		
Yes	97	60.6
No	63	39.4
Do you know what protective stabilization is?		
Yes	83	51.9
No	77	48.1

BMW: Brazilian Minimum Wage; BMW = US$ 269,00.

Table 2 shows the comparison data between the independent variables concerning the type of institution that trained oral health assistants and technicians, whether private or public. Regarding the place of training, whether in a public or private institution, there was a difference in the training of oral health assistants, who mostly completed their training in private institutions ($p<0.05$). The opposite occurred with oral health technicians, who were significantly different because most had completed their training in public institutions. Another aspect that was significantly different between public and private institutions was related to training for the professional approach of people with disabilities in the dental office. The participants who graduated from a public institution reported having taken at least one class on the subject, which was not the case for most of those who graduated from a private institution ($p<0.05$).

Table 2. Association between the independent variables and the dependent variable (the institution that carried out the training).

Variables	Institution	
	Public N	Private N
Sex		
Female	83[a]	73[a]
Male	3[a]	1[a]
Color*		
Yellow	1[a]	3[a]
White	57[a]	51[a]
Indigenous	0[a]	1[a]
Brown	20[a]	17[a]
Black	8[a]	2[a]
Marital status		
Married	44[a]	35[a]
Divorced	5[a]	6[a]
Single	26[a]	26[a]
Stable union	11[a]	7[a]
Income		
No income	0[a]	1[a]
Less than 1 minimum wage	0[a]	4[b]
1 to 2 minimum wages	57[a]	55[a]
2 to 3 minimum wages	20[a]	11[a]
3 to 5 minimum wages	6[a]	3[a]
5 to 10 minimum wages	1[a]	0[a]
Training		
Oral Health Assistant	22[a]	46[b]
Oral Health Technician	18[a]	10[a]
Oral Health Assistant and Technician	46[a]	18[b]
Do you work in the sector:		
Public	68[a]	64[a]
Private	18[a]	10[a]
During your OHA and/or OHT course, did you take any classes and/or subjects about caring for people with disabilities?		
Yes	58[a]	37[b]
No	28[a]	37[b]
Do you know what Assistive Technologies are?		
Yes	36[a]	27[a]
No	50[a]	47[a]
Do you know what protective stabilization is?		
Yes	45[a]	38[a]
No	41[a]	36[a]

*Classification of the Brazilian Institute of Geography and Statistics (IBGE) based on self-declaration; Chi-square test: Different letters indicate statistical difference ($p<0.05$).

Concerning the perception of dental care for people with disabilities, assistants and technicians responded to whether they agreed with the statements in the questionnaire; these responses are presented in Table 3. There was a significant difference in the safety of making a mouth opener for dental care. In most cases, those who had training in a public institution felt more capable than those who trained in a private institution ($p<0.05$).

Table 3. Association between variables related to the perception of dental care for people with disabilities with the institution that carried out the training.

Variables	Institution	
	Public N	Private N
Dental care for people with disabilities is more difficult when compared to a person without disabilities		
I agree	60[a]	63[a]
Indifferent (neutral)	14[a]	8[a]
I disagree	8[a]	3[a]
People with disabilities have more significant oral health problems (caries and periodontal disease) when compared to a person without disabilities		
I agree	60[a]	64[a]
Indifferent (neutral)	11[a]	13[a]
I disagree	11[a]	7[a]
People with disabilities have difficulty finding dental care		
I agree	49[a]	36[a]
Indifferent (neutral)	7[a]	7[a]
I disagree	26[a]	31[a]
I feel ready to make a mouth opener		
I agree	58[a]	37[b]
Indifferent (neutral)	11[a]	12[a]
I disagree	13[a]	25[b]
I feel comfortable adapting the handle of a toothbrush to make it easier to hold		
I agree	49[a]	35[a]
Indifferent (neutral)	16[a]	14[a]
I disagree	14[a]	25[a]
I feel prepared to help care for a person with a disability		
I agree	67[a]	56[a]
Indifferent (neutral)	7[a]	5[a]
I disagree	8[a]	13[a]
I feel prepared to provide oral hygiene guidance for a person with a disability or their family and/or caregivers		
I agree	75[a]	65[a]
Indifferent (neutral)	3[a]	3[a]
I disagree	4[a]	6[a]

Chi-square test: Different letters indicate statistical difference ($p<0.05$).

Discussion

The oral health team, especially the assistants and technicians, were discussed in this study. OHA training was more significant in private institutions, and OHT training was more excellent in public institutions. Regarding training in dental care for people with disabilities, those trained in public institutions had some contact with the subject, unlike those taught in private institutions.

Other articles have researched the perceptions of health professionals, students, and those responsible for people with disabilities about dental care [4,13-15]. A study that evaluated access to dental services by people with disabilities in the perception of those responsible revealed that these people encountered barriers when first

accessing the public service, where the dentist was unable or refused to assist because he considered the service difficult; thus, the resolution of the oral health problem focused on specialized care after referral [4].

The findings of this research show that most research participants work in the Unified Health System and are female, which corroborates findings in previous research that portray the profile of assistants and technicians in oral health. The relevant literature shows that oral health assistants and technicians are predominantly women and work in the Unified Health System [16-19]. In the Unified Health System, these professionals can work in basic health units, family health strategies, dental specialty centers, hospitals, and management roles [20,21]. The role of the OHT in public health services must be better utilized and managed by public bodies. The oral health team is strengthened when the dental surgeon and his auxiliary team work together, increasing productivity and being able to emphasize programmatic actions in prevention [21].

A systematic review by Galloway et al. (2004) demonstrated that dental assistant professionals provide quality, safe, and effective services, suggesting that they can carry out actions to promote oral health as much as dentists do, with good acceptance by the public they serve [22]. Between 1987 and 2006, five surveys compared aspects such as training, workforce characteristics, and proportion of coverage of dental hygienists in 25 countries. Analysis of the results revealed that there was a consistent evolution of the profession throughout the world. This trend should be monitored, as it affects access to and the efficiency of dental services [23].

The professional practice of oral health assistants and technicians in Brazil has developed into a persistent scenario characterized by a lack of knowledge, few investments, and many misunderstandings. A study by Warmiling et al. [24] aimed to describe the sociodemographic profile of the work and training of OHA and OHT in Rio Grande do Sul and noted that their role is still far below what is expected of their potential. This highlights the need for future investments in research that address an in-depth understanding of the contribution of these workers to the work process in oral health care [24].

According to the national catalog of technical courses from the Ministry of Education of Brazil, 533 public and private institutions offering technical courses in oral health are identified through the National Professional and Technological Education Information System (Sistec), 34 in Paraná. The OHT course offering must have a minimum workload of 1200 hours, an average duration of two years, and maybe a course subsequent to or concomitant with high school. Some institutions offer intermediate certification in the OHA after completing the first year of the course. The catalog also mentions that for professional practice, the OHT must understand how the Unified Health System (SUS) works, its principles, organization, levels of health care, and the current public health policies in the country, as well as how to apply them in their daily professional activities. They must also learn to work in interdisciplinary teams and address problem-solving situations with ethics and professionalism [25]. According to this research, most professionals work in public services in Brazil and have (or should) contact the principles and guidelines that govern public health services; therefore, teamwork must be encouraged and practiced during health courses.

The oral health support team is often responsible for welcoming people with disabilities and their families, so a warm and respectful attitude is necessary, regardless of the type of disability or the patient's social class. The family of a person with a disability may have certain expectations and anxiety regarding dental care, especially about the behavior of the person with a disability and the competence of the professionals involved in providing care [2,3,6]. It is part of the role of the auxiliary team to reassure this family and patient during reception [6]. In addition, knowledge about the types of disability, patient behavior, assistive technologies, adaptation of the office structure, positioning of the dental chair, and oral hygiene materials must be included in the training so that the care provided to people with disabilities will be humanized and resolute [6].

In this survey, most interviewees reported feeling prepared to assist in dental care for this population. Dental health services specialized in attending to people with disabilities need to be ready and qualified to offer care, and a strong point can and should be linked to the auxiliary team through welcoming and health education with family members and people with disabilities. Another highlight is assistive technologies, which facilitate day-to-day tasks, provide greater autonomy, and encourage self-care in oral health for people with disabilities [5,6]. Most of the oral health assistants and technicians who participated in the survey said they could adapt a toothbrush handle to make it easier to hold and knew the meaning of assistive technologies.

The limitation of the study was 43% of the response rate to online questionnaires. This study generally managed to address the proposed topic through its results.

Conclusion

Oral health assistants and technicians demonstrated a strong understanding of dental care for people with disabilities, particularly in providing a welcoming environment and offering support materials to improve and expedite care. As health promoters, oral health assistants and technicians can play an effective role in preventing oral health problems in this population by working directly with individuals with disabilities, addressing their need for assistance in health care, as well as engaging with caregivers, family members, or responsible parties. Continuous education for these professionals should be encouraged in private and public services.

Authors' Contributions

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All authors declare that they contributed to a critical review of intellectual content and approval of the final version to be published.

Financial Support

None.

Conflict of Interest

The authors declare no conflicts of interest.

Data Availability

The data used to support the findings of this study can be made available upon request to the corresponding author.

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