



# Influence of an extension project that provides care to patients with special needs on the professional life of dentists


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**Abstract** Dental care for patients with special needs (PSN) requires a differentiated approach to ensure the provision of effective and qualified treatment. However, training professionals capable of recognizing the needs of a community, considering the particularities of patients, is a notable challenge faced by higher education institutions. The literature highlights the importance of curricular content in Dentistry for Patients with Special Needs (DPSN) during undergraduate studies, significantly contributing to the future knowledge of professionals. This study aimed to evaluate the perception of former students regarding the professional performance in dental care for PSN, investigating possible differences between those who participated in extension activities on this topic during undergraduate studies and those who did not have this experience. This is a cross-sectional study with quantitative approach, using an online questionnaire applied to students who graduated between 2012 and 2019, with response rate of 58.8% (n=391). The results indicated that 31.7% (n=124) of participants got involved in this extension project, evidencing a positive association between this experience and the perception of preparedness to provide care for PSNs after graduation. While 76.2% of non-participants disagreed about feeling prepared, only 21.3% of project participants disagreed that their experiences during graduation were not sufficient. In addition, 89.9% of non-participants disagreed that their educational experiences helped in providing care for PSNs. It could be concluded that the extension project was effective in providing positive perceptions to participants, adequately preparing them for these services in their clinical practices after graduation. **Descriptors:** Disabled Person. Teaching. Students, Dental.

## Influencia de un proyecto de extensión que brinda atención a pacientes con necesidades especiales en la vida profesional de odontólogos

**Resumen** La atención odontológica a pacientes con necesidades especiales (PNE) requiere un enfoque diferente para garantizar la acogida y la prestación de un tratamiento eficaz y cualificado. Sin embargo, formar profesionales capaces de reconocer las necesidades de una comunidad, considerando las particularidades de sus pacientes, es un desafío notable que enfrentan las instituciones de educación superior. La literatura destaca la importancia de los contenidos curriculares de Odontología para Pacientes con Necesidades Especiales (OPNE) durante la graduación, contribuyendo significativamente al conocimiento futuro del profesional. La investigación tuvo como objetivo evaluar la percepción de los estudiantes egresados en relación al desempeño profesional en la atención odontológica de las PNE, investigando posibles diferencias entre quienes participaron en actividades de extensión durante la graduación y quienes no tuvieron esa experiencia. Se trata de un estudio transversal con enfoque cuantitativo, mediante un cuestionario en línea administrado a estudiantes egresados entre 2012 y 2019, con una tasa de respuesta del 58,8% (n=391). Los resultados indicaron que el 31,7% (n=124) de los participantes estaban involucrados en proyectos de extensión, mostrando una asociación positiva entre esta experiencia y la percepción de preparación para la atención del PNE después de la graduación. Mientras que el 76,2% de los no participantes no estuvo de acuerdo con sentirse preparado, sólo el 21,3% de los participantes en el proyecto no estuvo de acuerdo con que sus experiencias durante la graduación no fueron suficientes. Además, el 89,9% de los no participantes no estuvo de acuerdo con que sus experiencias educativas ayudaran a interactuar con las PNE. Se concluyó que el proyecto de extensión fue efectivo para brindar percepciones

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positivas a los egresados participantes, preparándolos adecuadamente para estos servicios en sus prácticas clínicas después de su graduación.

**Descritores:** Personas con Discapacidad. Enseñanza. Estudiantes de Odontología.

### **Influência de um projeto de extensão que presta atendimento a pacientes com necessidades especiais na vida profissional de cirurgiões-dentistas**

**Resumo** O atendimento odontológico a pacientes com necessidades especiais (PNE) requer uma abordagem diferenciada para garantir o acolhimento e a prestação de tratamento efetivo e qualificado. No entanto, a capacitação de profissionais capazes de reconhecer as necessidades de uma comunidade, considerando as particularidades de seus pacientes, é um desafio notável enfrentado pelas instituições de ensino superior. A literatura destaca a importância dos conteúdos curriculares de Odontologia para Pacientes com Necessidades Especiais (OPNE) durante a graduação, contribuindo significativamente para o conhecimento futuro do profissional. A pesquisa teve como objetivo avaliar a percepção de alunos egressos em relação à atuação profissional no atendimento odontológico a PNE, investigando possíveis diferenças entre aqueles que participaram de atividades extensionistas nesta temática durante a graduação e os que não tiveram essa vivência. Tratou-se de um estudo transversal com abordagem quantitativa, utilizando um questionário *online* aplicado a alunos egressos entre 2012 e 2019, com uma taxa de resposta de 58,8% (n=391). Os resultados indicaram que 31,7% (n=124) dos participantes se envolveram neste projeto de extensão, evidenciando associação positiva entre essa experiência e a percepção de preparo para o atendimento a PNE após a formatura. Enquanto 76,2% dos não participantes discordaram sobre se sentiram preparados, apenas 21,3% dos participantes do projeto discordaram que suas experiências durante a graduação não foram suficientes. Além disso, 89,9% dos não participantes discordaram que suas experiências educacionais ajudaram na interação com PNE. Concluiu-se que o projeto de extensão foi eficaz em fornecer percepções positivas aos egressos participantes, preparando-os adequadamente para esses atendimentos em suas práticas clínicas após formados.

**Descritores:** Pessoas com Deficiência. Ensino. Estudantes de Odontologia.

## **INTRODUCTION**

For Dentistry, patients with special needs (PSNs) are those who make up a heterogeneous population characterized by individuals who present a change or condition, simple or complex, momentary or permanent, of biological, physical, mental, social and/or behavioral etiology, which requires a special, multidisciplinary approach and the need for a specific treatment plan, modifying conventional dental routines in order to provide adequate dental treatment<sup>1</sup>.

Brazil follows the guidelines of the World Health Organization (WHO) in the medical and social assessment of disability<sup>2</sup>. In 2022, data from the Continuous National Household Sample Survey, conducted by the Brazilian Institute of Geography and Statistics (IBGE), reveal that Brazil has a population of 18.6 million people aged 2 or over, who have some form of disability<sup>3</sup>. Like all Brazilians, people with disabilities (PD) must have their health care provided according to art. 196, Section II – Health, of the 1988 Federal Constitution. Undeniably, this is a considerable portion of the population, most of them being users of the Unified Health System (SUS), and as such, they must be assisted in all their health needs.

However, it is notorious that the obstacles encountered by this group of patients in the search for qualified and humanized dental care are numerous. Among them, parents/guardians point out the high costs not only of dental procedures, but also of commuting to specialized clinics<sup>4</sup>. They also report difficulty in finding dentists who are qualified and willing to treat PSNs, as well as low knowledge of the community, including professionals of other health specialties linked to PSN care, about the importance of dental care<sup>5</sup>.

Regarding the health professional, there is reluctance on the part of some dentists to provide care to this public, regardless of public or private sector, lack of knowledge and adequate training, lack of sensitivity and experience, in

addition to inadequate remuneration or the belief that special equipment is necessary for the treatment to be carried out<sup>6,7</sup>. In some cases, the absence of an oral health assistant ends up making it difficult or impossible to provide this type of care, as short consultations are recommended and, at times, protective stabilization and the use of mouth openers are necessary to avoid accidents<sup>8</sup>.

In this context, the difficulties found in seeking dental care can result in large number of accumulated dental needs, which can lead to situations of pain and difficulties in carrying out activities of daily living, reducing their quality of life<sup>9</sup>.

It is believed that the difficulties faced by dentists could be reduced by initiatives adopted by dentistry courses, by the public service in the management of their service units, and by public or private reference centers when training and qualifying their students/professionals<sup>10</sup>.

In Brazil, the first National Curricular Guidelines (NCG) for dentistry courses determine that undergraduates must be trained, throughout their academic training process, to provide care at all health care levels, receiving generalist training. Thus, dentists must have the knowledge to meet the needs of their patients, regardless of their particularities<sup>11</sup>. Law No. 9,394, article 53, establishes the guidelines and bases of national education, where it establishes and ensures that Brazilian Higher Education Institutions (HEIs), in the exercise of their didactic-scientific autonomy, establish the education and teaching program for each course. Resolution 3 of the Higher Education Chamber (HEC) of the National Education Council (NEC), in its article 6, determines the essential contents to be covered during undergraduate Dentistry courses and Dentistry for Patients with Special Needs (DPSN) is not mentioned<sup>12</sup>. However, the most recent version of NCG includes in its Article 24 dental care for individuals with special needs<sup>13</sup>.

Furthermore, the literature shows the importance and need for regular curricular contents of DPSN covered during undergraduate courses, since the topic is of great importance for the knowledge of future professionals, since it is indisputable the need for HEIs to train generalist and, mainly, humanist dentists<sup>14</sup>.

Thus, the extension project aimed at providing care to PSNs developed at the School of Dentistry (SD) of the Federal University of Pelotas (UFPel) is a way for this segment of the population to have access to dental care by resolving their dental demands and enabling students to gain clinical experience and develop behavioral management practices and provide appropriate care.

In view of the above, the aim of this study was to verify the influence of the extension project on the professional lives of dentists who graduated from SD-UFPel and participated in it, compared to those who did not participate in this experience during their undergraduate studies.

## METHOD

This is a cross-sectional observational study with quantitative approach, with students who graduated from SD-UFPel, between 2012 and 2019, through an online questionnaire. A total of 696 graduates were identified.

This study was submitted to and approved by the Institutional Research Ethics Committee (CAAE: 52529521.0.0000.5318, opinion No. 5.050.078). All professionals who agreed to participate in the study marked the option of acceptance in a Free and Informed Consent Form (FICF).

The questionnaire was administered through Google Forms, sent via social media (Instagram, WhatsApp and Facebook), in addition to the professional's email. The instrument was previously tested, being administered to students who graduated in 2020, who were not part of the sample, to verify their understanding of questions. The test was carried out online with five students, when their doubts were evaluated and suggestions considered, and the time was measured, defining the average time needed to respond to the survey.

The questionnaire consisted of semi-structured questions containing the following analytical domains: personal aspects and professional training, knowledge on the topic, experiences and perceptions about PSN during and after graduation, and about PSN services and their barriers.

Regarding personal aspects and professional training, questions were about gender, age (in years), participation or not in the project, time since graduation (in years), sphere of professional activity (public, private or public and private), professional training (courses, training, graduate studies, master's and doctorate) and whether this training (specialization, thesis and/or dissertation) was related to PSN. The age of participants was collected in years and dichotomized by the median (from 24 to 30 years and from 31 to 50 years). Time since graduation was also dichotomized into 5 years or less and 6 years or more.

Regarding the knowledge domain, statements were made based on the study by Parker et al. (2013)<sup>15</sup> regarding the dentist's perception of their contact with PSN care during their academic training and after starting their professional career, their perception of their ability to provide care to PSN, their perception of barriers to providing these services and their interest in acquiring knowledge about PSN care, with the following response alternatives: "I agree", "I fully agree", "I neither agree nor disagree", "I disagree" and "I fully disagree". Subsequently, the options "I agree" and "I fully agree" were transformed into a single alternative "I agree", as well as "I disagree" and "I fully disagree" into the alternative "I disagree".

Graduates were asked whether they treated PSNs, and those who did not treat PSNs after graduation were asked why they did not treat this group of patients, with multiple-choice options, such as: I do not feel qualified to treat people with special needs, lack of assistants, insecurity regarding possible complications of procedures, fear of patient reactions, I have not yet had a demand for PSN care, and there are physical barriers that prevent PSNs from accessing my workplace.

During data analysis, two duplicate responses were excluded, analyzing the email address registered in the questionnaire. Data were submitted to descriptive statistical analysis, in which relative and absolute frequencies of each variable were calculated.

For the comparative analysis between those who participated or not in activities related to PSNs during graduation and the statements, as well as regarding PSN care and its barriers, the Fisher's exact test was used. Data were analyzed using Stata 13.0 (StataCorp., College Station, Texas, USA). P-value <0.05 was considered statistically significant. When the alternative "I prefer not to declare" was marked in any of the questions, it was considered missing data.

## RESULTS

Of a total of 696 SD-UFPel graduates, 665 were contacted and 391 answered the questionnaire, with a response rate of 58.8%. Of these, 124 participated in the "Acolhendo Sorrisos Especiais" extension project during their undergraduate studies for at least one semester (31.7%). Table 1 shows the characteristics of participants regarding personal aspects, professional training and work routine.

Table 2 shows data regarding professional training after graduation; 83.1% had specialization, of which only 1.5% was related to PSN and 87.7% did not take any course (minimum workload of 180 hours) on this topic.

Table 3 shows the perceptions of graduates regarding the statements regarding knowledge acquired about the PSN topic during and after graduation, whether or not they treat this group of patients in their clinical routine and the associations with having or not participated in the project.

Among the 391 interviewees, 41.9% stated that they have treated PSN in their clinical routine. Only 12.3% of dentists agreed that they felt fully prepared to treat PSN after graduation. The majority agreed on the need for a mandatory course on treating PSN (83.1%).

Regarding dental care to PSN in their clinical routines, the majority of participants had participated in the project during their undergraduate studies ( $p < 0.001$ ). Regarding the belief that the knowledge in undergraduate studies was sufficient for treating PSN, among dentists who agreed with the statement, 63.9% participated in the project, while only 36.1% of dentists who did not participate had the same perception. Regarding never having treated PSN during undergraduate studies, 96.3% of those who did not participate in the project agreed with this statement. Regarding

the statement that their experiences during graduation had taught them enough about the dental needs of PSNs, the group of project participants had lower disagreement rate (21.3%) when compared to the group of non-participants (78.7%). Regarding educational experiences during graduation having helped them interact with PSNs, 89.9% of those who did not participate in the project disagreed with this statement. It was also observed that 76.2% of those who did not participate in the project reported they felt prepared to provide care to PSNs after graduation. Two hundred and fifty-seven (58%) reported that they did not provide care to PSNs in their clinical routine and were asked about the reasons for not providing this care (Table 4). There was statistically significant association ( $p < 0.05$ ) only regarding the option of not feeling prepared to provide care to PSNs.

**Table 1.** Characterization of graduate dentistry dentists regarding personal aspects, professional training and work routine (n=391).

Variable	n	%
<i>Sex</i>		
Male	110	28.1
Female	281	71.9
<i>Age (years)</i>		
24 - 30 years	182	46.5
31 - 50 years	209	53.5
6 years or more	206	52.7
5 years or less	185	47.3
<i>Work routine*</i>		
Public/private	77	19.9
Fully public	37	9.5
Fully private	245	63.1
I do not work in a clinic	29	7.5

\* Missing data

**Table 2.** Characterization of graduate dentists in relation to professional training after graduation (n=391).

Variable	n	%
<i>Specialization</i>		
No	66	16.9
Yes	325	83.1
<i>Has specialization related to PSN</i>		
No	320	88.5
Yes	5	1.5
<i>Graduate studies (master's and/or doctorate)</i>		
No	250	63.9
Yes, currently pursuing a master's or doctorate	71	18.1
Yes, completed master's or doctorate	70	18.0
<i>Do you have a thesis/dissertation related to PSN?*</i>		
No	138	97.9
Yes	3	2.1
<i>Short-term course related to PSN</i>		
No	343	87.7
Yes	48	12.3
<i>Have you received course(s) related to dental care for PSN provided by the City Hall?*</i>		
Never worked in the public sector	184	47.2
No I did not	187	47.9
Yes I did	19	4.9

\* Missing data; PSN = patient with special needs

**Table 3.** Association between the perception of graduates regarding statements related to care for PSN, providing care in their clinical routine and having or not participated in the extension project during graduation (n=391).

Variáveis	Total		Did not participate in the project		Participated in the project		p-value
	n	%	n	%	n	%	
<i>I provide care for PSN in my clinical routine.</i>							<0.001
No	227	58.1	174	76.6	53	23.4	
Yes	164	41.9	93	56.7	71	43.3	
<i>During graduation I learned enough about care for PSN</i>							<0.001
Agree	83	21.2	30	36.1	53	63.9	
Disagree	221	56.5	170	76.9	51	23.1	
Neither agree nor disagree	87	22.3	67	77.1	20	22.9	
<i>I have never treated a person with special needs during my undergraduate studies.</i>							<0.001
Agree	107	27.4	103	96.3	4	3.7	
Disagree	272	69.5	154	56.6	118	43.4	
Neither agree nor disagree	12	3.1	10	83.3	2	16.7	
<i>My education during my undergraduate studies taught me to enjoy working with PSN.</i>							<0.001
Agree	121	30.9	39	32.2	82	67.8	
Disagree	142	36.4	123	86.6	19	13.4	
Neither agree nor disagree	128	32.7	105	82	23	18	
<i>My undergraduate professors showed me how to interact with PSN according to their particular characteristics.</i>							<0.001
Agree	191	48.9	96	50.3	95	49.7	
Disagree	123	31.4	110	89.4	13	10.6	
Neither agree nor disagree	77	19.7	61	79.2	16	20.8	
<i>My educational experiences during undergraduate studies taught me enough about the dental needs of PSN.</i>							<0.001
Agree	87	22.3	40	46	47	54	
Disagree	207	52.9	163	78.7	44	21.3	
Neither agree nor disagree	97	24.8	64	66	33	34	
<i>The educational experiences during my undergraduate studies really helped me interact with PSN.</i>							<0.001
Agree	153	39.1	63	41.2	90	58.8	
Disagree	149	38.1	134	89.9	15	10.1	
Neither agree nor disagree	89	22.8	70	78.6	19	21.4	
<i>During my undergraduate studies, a course on Care for Special Patients should be part of the mandatory curriculum.</i>							0.004
Agree	325	83.1	211	64.9	114	35.1	
Disagree	22	5.6	18	81.8	4	18.2	
Neither agree nor disagree	44	11.3	38	86.4	6	13.6	
<i>After graduation, I felt fully prepared to provide care for PSN.</i>							<0.001
Agree	48	12.3	20	41.7	28	58.3	
Disagree	273	69.9	208	76.2	65	23.8	
Neither agree nor disagree	70	17.8	39	55.7	31	44.3	
<i>In my professional life, after graduation, I provide care for PSN whenever there is a demand.</i>							0.005
Agree	219	56	135	61.6	84	38.4	
Disagree	99	25.3	78	78.8	21	21.2	
Neither agree nor disagree	73	18.7	54	74	19	26	
<i>I believe that even if not feeling qualified to provide care for PSN, I should welcome and refer them to the appropriate service/professional.</i>							0.891
Agree	377	96.4	258	68.4	119	31.6	
Disagree	4	1	3	75	1	25	
Neither agree nor disagree	10	2.6	6	60	4	40	
<i>In my work environment, there are barriers, regarding attitudes and/or physical structure, that prevent or hinder providing dental care for PSN.</i>							0.513
Agree	165	42.2	111	67.3	54	32.7	
Disagree	156	39.9	104	66.7	52	33.3	
Neither agree nor disagree	70	17.9	52	74.3	18	25.7	
<i>I believe that PSNs need to be treated exclusively by specialist professionals or in specific centers.</i>							0.001
Agree	78	19.9	63	80.7	15	19.3	
Disagree	242	61.9	149	61.6	93	38.4	
Neither agree nor disagree	71	18.2	55	77.5	16	22.5	
<i>I am interested in learning more about Dentistry for PSN.</i>							<0.001
Agree	300	76.7	188	62.7	112	37.3	
Disagree	43	11	38	88.4	5	11.6	
Neither agree nor disagree	18	12.3	41	85.4	7	14.6	

**Table 4.** Association between perception of graduate dentists regarding the reasons for not providing dental care for PSN and whether or not they participated in the extension project during their undergraduate studies (n=227).

Statement	Total		Did not participate in the project		Participated in the project		p-value
	n	%	n	%	n	%	
<i>I do not feel able to provide care for people with special needs</i>							<0.001
No	285	72.9	176	61.8	109	38.2	
Yes	106	27.1	91	85.9	15	14.1	
<i>Absence of assistant on the team</i>							0.557
No	328	83.9	226	68.9	102	31.1	
Yes	63	16.1	41	65.1	22	34.9	
<i>Insecurity regarding possible complications during procedures</i>							0.077
No	313	80	207	66.1	106	33.9	
Yes	78	20	60	76.9	18	23.1	
<i>Fear of patient reactions</i>							0.200
No	339	86.7	227	67	112	33	
Yes	52	13.3	40	76.9	12	23.1	
<i>I have not yet had a demand for PSN care</i>							0.242
No	303	77.5	202	66.7	101	33.3	
Yes	88	22.5	65	73.9	23	26.1	
<i>There are physical barriers that prevent the access of PSNs in my work environment</i>							0.567
No	357	91.3	242	67.8	115	32.2	
Yes	34	8.7	25	73.5	9	26.5	

## DISCUSSION

The assessment of the perception of former dental students regarding the care for PSNs allowed establishing a comparative profile between graduates who participated in the extension project during their undergraduate studies and those who did not. The results indicated that participation in the project had positive association with providing care to PSNs in their clinical routine. This includes the knowledge to provide dental care and interact with these patients, in addition to feeling qualified to provide such care. These results reinforce findings in literature that for undergraduate dentistry students, contact with topics related to the care for PSNs during undergraduate studies ensures the experience of diverse clinical situations, which demand autonomy of thought and action, which in turn allows future professionals to feel more prepared for this type of care<sup>16</sup>. In this sense, it was also identified that among those who had not participated, there was higher prevalence of perception of lack of knowledge to provide dental care for PSNs.

Furthermore, these findings suggest that the project may have been effective in providing participants with skills and knowledge needed to deal with the specific demands of PSNs, and that practical experience may have been especially valuable in this learning process and in their clinical performance in professional life.

Based on data obtained, it is possible to infer that there is a notable interest among dentists in deepening their knowledge about dental care for PSNs. The fact that most participants agreed with the statement that they would like to know more about the subject suggests that they perceive a gap in knowledge related to dentistry for PSNs in their training. This willingness to learn more about the subject may be an opportunity to improve the education and training of dental professionals<sup>17</sup>.

However, despite the reported interest, a minority of dentists reported having received training or taken short courses on the subject. This finding may be related to the lack of specific courses, lectures and conferences on dentistry for PSNs. Furthermore, the fact that most participating dentists reported not providing dental care for people with special needs in their clinical routine, which main reason was that they did not feel qualified to provide care for PSNs, may be an indication that the lack of contact with this topic during their undergraduate studies has affected their training. On the other hand, the search for training on this topic after graduation does not seem to be a priority.

A study conducted in the Dentistry course at the Federal University of Piauí pointed out the need for students to be better prepared to deal with people with special needs, both in terms of behavior and technique. The results of this study indicated that insecurity and anxiety were the main behavioral reactions of students when faced with the fictitious

situation of providing dental care to people with special needs. The inclusion of a mandatory discipline on providing dental care for people with special needs in the course curriculum was supported by most participating students and professors, corroborating the results found in this study<sup>18</sup>.

Therefore, it could be inferred that Dentistry courses should offer opportunities for contact with PSNs during undergraduate studies, whether through theoretical classes, practical activities or internships in specialized clinics, since insecurity in providing care to PSNs can be related to inexperience, mainly caused by the lack of contact with these patients during undergraduate studies<sup>19</sup>. In addition, the experience of providing care to PSNs during undergraduate studies is decisive for knowledge, attitudes and behavior when providing care to this public and tends to prevent this type of care from being neglected in future professionals<sup>17;20-22</sup>.

Two recent systematic reviews indicated that between 45% and 70% of people with disabilities have difficulty accessing dental services at all levels of care, from prevention to emergency care. One of the main barriers to this access is the lack of preparation of professionals to provide care to PSNs<sup>23;24</sup>.

In literature, studies found an inconclusive scenario regarding the implementation of curricular components of care for PSNs in Dentistry courses in different Brazilian states<sup>16;18;19;25;26</sup>.

## CONCLUSION

The extension project appears to have been effective in providing participants with the perception of sufficient learning on the topic, enabling them to perform appropriate care in their regular clinical practices. The notable gap in training on care for PSNs during undergraduate studies highlights the urgent need to incorporate courses aimed at this population into the curricula of dentistry courses.

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