

Impact of Endodontic Problems on the Quality of Life of Patients in School Clinic Endodontic Problems on the Quality of Life

Impacto dos Problemas Endodônticos na Qualidade de Vida de Pacientes de Clínica Escola
Impacto de los Problemas de Endodoncia en la Calidad de Vida de los Pacientes en la Clínica Escolar

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Abstract

Background: to evaluate the impact of endodontic problems on the quality of life related to oral health of patients with confirmed diagnosis of endodontic pathology, using the Oral Health Impact Profile (OHIP-14). **Methods:** this is a cross-sectional study carried out with patients in need of endodontic treatment seen at the outpatient clinics of two undergraduate courses in Dentistry in the years 2018 and 2019. The patients underwent detailed anamnesis and answered the OHIP-14 questionnaire. **Results:** the 97 patients from the UNIUV educational institution and 50 patients from the UFS educational institution were evaluated. The average age was 37 (\pm 13) years, 59% were women, 27% declared no income and 66% had more than 8 years of study. When associating the variables with OHIP 14 with or without impact in relation to quality of life, a statistically significant difference (chi-square) was found for sex and pain. It appears that the dimensions most affected were psychological discomfort and physical pain. **Conclusions:** pain of endodontic origin had an impact on the quality of life of the patients evaluated.

Descriptors: Endodontics; Dentistry; Quality of Life

Resumo

Fundamento: avaliar o impacto dos problemas endodônticos na qualidade de vida relacionada à saúde bucal de pacientes com diagnóstico confirmado de patologia endodôntica, utilizando o Oral Health Impact Profile (OHIP-14). **Métodos:** trata-se de um estudo transversal realizado com pacientes com necessidade de tratamento endodôntico atendidos nos ambulatórios de dois cursos de graduação em Odontologia nos anos de 2018 e 2019. Os pacientes foram submetidos a anamnese detalhada e responderam ao questionário OHIP-14. **Resultados:** foram avaliados 97 pacientes da instituição de ensino UNIUV e 50 pacientes da instituição de ensino UFS. A idade média foi de 37 (\pm 13) anos, 59% eram mulheres, 27% declararam não ter renda e 66% tinham mais de 8 anos de estudo. Ao associar as variáveis do OHIP 14 com ou sem impacto em relação à qualidade de vida, foi encontrada diferença estatisticamente significativa (qui-quadrado) para sexo e dor. Verifica-se que as dimensões mais afetadas foram o desconforto psicológico e a dor física. **Conclusões:** a dor de origem endodôntica teve impacto na qualidade de vida dos pacientes avaliados.

Descritores: Endodontia; Odontologia; Qualidade de Vida.

Resumen

Fundamento: evaluar el impacto de los problemas endodónticos en la calidad de vida relacionada con la salud bucal de pacientes con diagnóstico confirmado de patología endodóntica, utilizando el Perfil de Impacto en Salud Bucal (OHIP-14). **Métodos:** se trata de un estudio transversal realizado con pacientes necesitados de tratamiento de endodoncia atendidos en consultas externas de los carreras de pregrado en Odontología en los años 2018 y 2019. A los pacientes se les realizó una anamnesis detallada y respondieron el cuestionario OHIP-14. **Resultados:** se evaluaron los 97 pacientes de la institución educativa UNIUV y 50 pacientes de la institución educativa UFS. La edad promedio fue de 37 (\pm 13) años, el 59% eran mujeres, el 27% declaró no tener ingresos y el 66% tenía más de 8 años de estudio. Al asociar las variables OHIP 14 con o sin impacto en relación a la calidad de vida, se encontró diferencia estadísticamente significativa (chi-cuadrado) para sexo y dolor. Parece que las dimensiones más afectadas fueron el malestar psicológico y el dolor físico. **Conclusiones:** el dolor de origen endodóntico tuvo un impacto en la calidad de vida de los pacientes evaluados.

Descriptores: Endodoncia; Odontología; Calidad de Vida.

INTRODUCTION

Oral diseases can cause pain and psychological changes that hinder the activities of the individual's daily activities¹. Among these

pathologies are those that affect the pulp and the dental periapex, causing pain and causing the patient to seek the health service in order to be seen². Among these demands is for the specialty of

endodontics, given the urgency of care. Since it is pain, endodontic treatment suggests an impact on the quality of life of the population and its productivity³⁻⁵.

Quality of life can be defined as a summary of all dimensions that society considers as a model of well-being and comfort. The term is quite wide, reflecting individual and society experiences and values⁶. Therefore, its quantization is complex, causing several proposals to have been suggested for this purpose⁷. Among these proposals suggested specifically to assess the impact of oral health problems on quality of life, we can mention the *Oral Impacts on Daily Performances (OIDP)*, the *Geriatric Oral Health Assessment Index (GOHAI)* and the *Oral Health Impact Profile (OHIP-49)*, and its most summarized version, the OHIP-14⁷.

Among these indexes, the OHIP-14 is one of the most used in different cultures and socio-demographic profiles⁸. This instrument is a shorter derivation of the OHIP-49, created by Slade & Spencer⁹ (1994) and adapted for a version with 14 questions^{8,9}. The OHIP-14 was validated for the Portuguese by Oliveira et al.¹¹ (2005), maintaining the psychometric properties demonstrated by the original English version^{11,12}. The scale is composed of 14 items subdivided into seven conceptual dimensions: functional limitation (items 1 and 2), physical pain (items 3 and 4), psychological discomfort (items 4 and 5), physical disability (items 6 and 7), psychological disability (items 8 and 9), social disability (items 10 and 11) and disability (items 12 and 13).

The OHIP 14 instrument is one of the instruments that measures people's perception of oral disorders in their well-being. Thus, the instrument aims to complement the traditional indicators of oral epidemiology, being disseminated in dentistry because it is supported on a solid conceptual and empirical basis, has known psychometric properties and is easily applicable⁴.

The importance of the perception of the oral condition conditions the behavior of the individual. It is plausible to believe in an increase in the demand for dental care if people perceived their needs. Thus, it is essential to take into account how the population perceives itself in aspects related to oral health and oral diseases⁷. Therefore, it is important to use OHIP-14 in the planning of programs and actions focused on workers' health, as it would help to perceive and prioritize care according to the impacts on physical and psychosocial well-being. This modo, it would assist in actions focused on health education, with emphasis on self-perception, self-protection and self-care, as they would enable greater empowerment of individuals, making them more autonomous in the search for improvement of quality of life^{7, 10}.

So, this study aims to assess the impact of

endodontic conditions on the quality of life related to oral health of patients seen at the outpatient clinic of the undergraduate course in Dentistry in Universidade Federal de Sergipe (UFS) and the Centro Universitario de União da Vitória (UNIUV).

MATERIAL AND METHOD

This is an observational, descriptive, and cross-sectional study that was developed with patients in need of endodontic treatment, attended in the outpatient clinics of the undergraduate course in Universidade Federal de Sergipe (UFS) in Aracaju/SE and the Centro Universitario de União da Vitória/PR (Paraná) (UNIUV) in year 2018 and 2019. The sample was to convenience. The eligibility criteria were all patients who sought endodontic care at educational institutions, of any sex, with age more than 18 years.

UNIUV has a larger number of students (approximately 30 students per semester) and a greater amount of endodontic care (integrated clinics) than UFS (approximately 12 students per semester), which is why the largest number of patients interviewed. The interviews were conducted before endodontic care was performed. The research was carried out by 3 students calibrated by teachers in person and virtually, with an agreement index of 0.75.

Fifty patients in UFS and 97 patients in UNIUV were evaluated. These patients have similar characteristics such as income and schooling even though the patients come from different parts of the country. The average age of patients at UNIUV and UFS was 37 years old, average schooling with more than 8 years of study, on average without income.

This study was approved by the research ethics committee of Universidade Federal de Sergipe (CAAE: 90516718.5.0000.5546). After completing the Informed Consent Form (TCLE), information was obtained about the pulp diagnosis and its quality of life related to oral health, through clinical and radiographic examination and the application of OHIP-14¹¹.

The survey was conducted on patients seen at endodontics clinics at UFS and UNIUVI. The following parameters were evaluated: Type of tooth(s) requiring endodontic treatment, type of periapical pathology and absence or presence of previous endodontic treatment in the tooth causing the complaint. The evaluation of the presence of lesions in the periapex occurred through periapical radiographs. In cases where there was need for endodontic treatment in more than one tooth, it was considered the tooth causing the main complaint.

The radiographic technique and film processing were standardized according to the characteristics of them, and the X-ray apparatus used in the acquisition of images, as recommended by Alvares & Tavano¹⁶.

The result of the OHIP-14 was calculated by

adding the scores of all the answers, each one received a score between zero and four: zero representing "NEVER" and four representing "ALWAYS" (Table 1).

Table 1. Coding of the OHIP-14 responses, using a Likert scale

CATEGORY	PONTUATION
Never (N)	0
Rarely (RR)	1
Sometimes (S)	2
Repeatedly (RP)	3
Always (A)	4

Questionnaires in which the sum of the answers are 14 will be considered as having an impact on quality of life and < 14 as not having an impact³¹.

The data analyses were descriptive, using the Microsoft Excel program. Fisher's chi-square and exact analyses were also used to verify associations between the variables, using the Bioestat 5.0 program with level of significance 5%. For the data in which the chi-square gave a statistically significant difference, the prevalence ratio was calculated (odds ratio).

RESULTS

A total of 147 patients aged 18 to 82 years were evaluated, and 97 patients at UNIUV and 50 patients at UFS were evaluated. Of this total, 59% were women, 27% declared no income and 66% had more than 8 years of study. In relation to OHIP 14, 53% had an impact of the oral health condition in relation to quality of life (OHIP with scores greater than 14).

When associating socioeconomic variables with the OHIP-14 (chi-square test), there is a statistically significant difference for sex (p = 0.014) and for oral health for pain (p = 0.03), with an impact on quality of life (Table 2).

Table 2: Association of socio-economic and endodontic variables with the OHIP 14 questionnaire. UFS/SE and UNIUV/PR, 2018-2019

		No impact	With impact	P	Odds
Gender	Female	35	56	0.014	2.5
	Male	34	22		
Age	18 - 30	23	27	0.46	
	31-50	31	40		
	51-82	15	11		
Schooling	Up to 4 years of study	9	9	0.9	
	From 4 to 8 years of study	14	16		
	More than 8 years of study	46	52		
Income	Didn't answer	26	29	0.9	
	Has no income	19	21		
	Up to 1 SM	11	12		
Marital status	More than 1 SM	13	15	0.53	
	Single	29	29		
	Widower	2	5		
	Married	31	41		
Dental condition	Divorced	4	3	0.16	
	Other	1	4		
	Carious	26	40		
	Fractured	4	6		
Pain	Restored	34	27	0.04	2.8
	Spontaneous	10	25		
Have you ever had an endodontic treatment?	Provoked	22	19	0.26	
	No	65	81		
Periapical Region	Yes	4	1	0.45	
	Normal (NL)	23	26		
	Thickening (EP)	18	16		
	Periapical Injury (LP)	17	28		
Pulp pathologies	Thickening and Injury	7	5	0.9	
	PR (reversible pulpitis)	11	13		
	PI (irreversible pulpitis)	55	68		
Periapical pathologies	PAS (symptomatic apical periodontitis)	9	12	0.83	
	PAA (asymptomatic apical periodontitis)	34	40		
	AA (Acute dentoalveolar abscess)	3	3		
	AC (Chronic dentoalveolar abscess)	2	5		

*values less than 5 fisher's exact test was used/ SM = Minimum wage

Table 3 shows that the lowest impact is related to functional limitation and social disability, and the high impact is related to psychological discomfort and physical pain.

Table 3: Simple frequency of the answers of lower and greatest impact for the seven dimensions studied of the OHIP 14 questionnaire. Aracaju/SE and União da Vitória/PR, 2018-2019

	N	RR	S	RP	A	lowest frequency assigned value	higher frequency assigned value
Functional Limitation	116.5	5.5	19	3	3.5	79.25	2.38
Physical pain	31.5	13	63	18.5	21	21.43	14.29
Psychological Discomfort	41.5	7	36	11.5	51	28.23	34.69
Physical Disability	77	13.5	39.5	10.5	6.5	52.38	4.42
Psychological Disability	71	10	34	13	19	48.30	12.93
Social Disability	97	8.5	22.5	8	11	65.99	7.48
Social Disadvantage	105	8.5	21	7	5.5	52.38	4.42

N=Never; RR=Rarely; S=Sometimes; RP=Repeatedly; A=Always

When the overall OHIP 14 score was verified, it was verified that the most affected dimensions were psychological discomfort (2.16) and physical pain (1.89) (Figure 1).

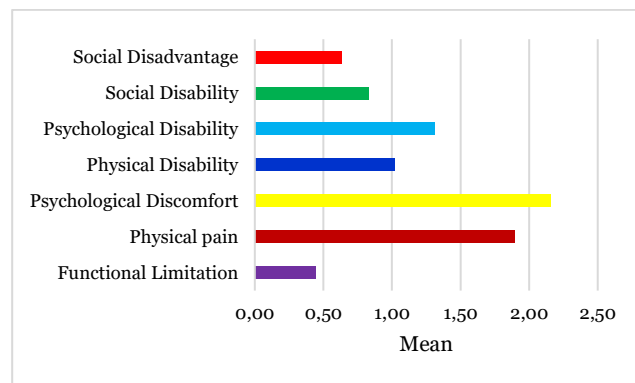


Figure 1: Distribution of the OHIP 14 dimensions' score in the interviewees. UNIUV and UFS (2018 and 2019)

DISCUSSION

When there is an association between oral health-related quality of life of patients with a confirmed diagnosis of endodontic pathology, through the Oral Health Impact Profile (OHIP-14) instrument, there is a statistically significant association for sex and pain. In relation to gender, females are more prevalent for the one with an impact on quality of life (OHIP with a value greater than 14 points)³¹.

In the study by Coelho et al.¹⁸ in which they evaluated the impacts of oral health on quality of life, they found that females are 2.08 times more likely to have an impact on quality of life due to oral problems than males. In the present study, it was verified that females are 2.5 times more likely to have a positive impact. Some situations could explain these results: culturally, women should take care of their family and home, so they should enjoy good health³⁰. Another possible cause of this result would be the greater aesthetic concern of women, which leads them, most often to seek treatment quickly when cavities arise, consequently reducing pain and the need for endodontic treatments³².

By associating quality of life by OHIP-14 with an impact on oral health, pain spontaneously corresponds to 56% of the cases. It was found in the present study that pain corresponds to 2.8 times more likely to have influence on quality of life. Cohen-Carneiro et al.¹⁶ evaluated the psychological properties of OHIP-14 and the prevalence of oral health impacts on the rural riverside population in Amazonas, Brazil. The study showed that there was a significant association in the impact of oral health of the interviewed patients was the presence of pain, untreated caries, teeth requiring extractions or need for endodontic treatment. The conditions mentioned were significant for the perception of negative impacts on the lives of the study participants, then tooth loss, periodontal condition, or the need for prostheses. This result points to the remarkable contribution of pain and the variables associated with it in the quality of life related to oral health in these populations¹⁶.

In the present study, it is observed that less impact is related to functional limitation and social disability, and the high impact is related to psychological discomfort and physical disability. These results are paradoxical when compared to the survey conducted by Peres et al.²⁸ (2013). These authors observed that pain of dental origin would have a greater influence on the functional capacity of individuals than other parameters. Liu et al.²¹ (2012), compare the psychological suffering among patients referred for endodontic treatment regarding patients undergoing periodontal maintenance through the OHIP-14 and the General Health Questionnaire (GHQ-12). The authors concluded that endodontic treatment causes greater psychological suffering than periodontal maintenance. The results of the work of Liu et al.²¹, like those presented in this study, presented an important psychological discomfort caused by endodontic pathologies.

When the overall OHIP 14 score was verified, it was verified that the most affected dimensions were psychologic discomfort (2.16) and pshichological pain (1.89). The presence of some unfavorable condition in the oral cavity during adulthood has the potential to cause pain, incapacitating the individual from smiling, swallowing, chewing and kissing, compromising their psychosocial well-being and influencing self-expression, communication and facial aesthetics, making even professional life difficult¹⁷. Thus, pain also causes intense psychological discomfort, adding to other conditions that contribute to this situation.

The study has as limitations the fact that it is a sample of convenience in which the evaluated have similar economic characteristics, which can

interfere with their perception of quality of life. After all, some authors consider that even with a low socioeconomic profile, satisfaction with quality of life is higher in people with low socioeconomic status³² and others that the worst OHIP scores were found in people with lower income¹⁰.

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CONFLICT OF INTERESTS

The authors declare no conflict of interest.

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