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Edentulism from an Epidemiological Analysis

Edentulismo a partir de un Análisis Epidemiológico

Edentulismo a partir de uma Análise Epidemiológica

ABSTRACT

Objective: the prevalence of edentulism and associated factors in patients seen at the Clínica Escola de odontologia in a private University Center in João Pessoa - PB was analyzed. **Method:** this is a descriptive, qualitative, cross-sectional study carried out from August 2017 to December 2019. **Or instrument** was clinical records. The total sample was 236 medical records. **Results:** there was a prevalence of females (65%), aged 50 years or older (36.9%), married (51.6%), with monthly income between 501 and 1500 reais (43.1%), incomplete primary education (28.6%), last visit to the dentist for at least 1 year (53.7%), non-smokers (71.1%), performs oral hygiene twice a day (60.2%). **Conclusion:** Patients have significantly different socioeconomic and behavioral variables ($p < 0.01$), therefore, tooth loss is associated with several factors that affect oral health and directly influence quality of life.

DESCRIPTORS: Edentulous Arcade; Oral Health; Epidemiology.

RESUMEN

Objetivo: se analizó la prevalencia de edentulismo y factores asociados en pacientes atendidos en la Clínica Faculdade de Odontologia de un Centro Universitario privado en João Pessoa - PB. **Método:** es un estudio descriptivo, cualitativo, transversal, realizado entre agosto de 2017 y diciembre de 2019. **El instrumento** fue la historia clínica. La muestra total fue de 236 registros. **Resultados:** hubo prevalencia de mujeres (65%), 50 años o más (36,9%), casadas (51,6%), con ingresos mensuales entre 501 y 1.500 reales (43,1%), educación primaria incompleta (28,6%), última visita al dentista hace al menos 1 año (53,7%), no fumadores (71,1%), realizaban higiene bucal dos veces al día (60,2%). **Conclusión:** Los pacientes tienen variables socioeconómicas y de comportamiento significativamente diferentes ($p < 0.01$), por lo tanto, la pérdida de dientes se asocia con varios factores que afectan la salud bucal e influyen directamente en la calidad de vida.

DESCRIPTORES: Arcade desdentado; Salud bucal; Epidemiología.

RESUMO

Objetivo: analisou-se a prevalência de edentulismo e fatores associados em pacientes atendidos na Clínica Escola de odontologia em um Centro Universitário privado de João Pessoa - PB. **Método:** trata-se de um estudo descritivo, de natureza qualitativa, transversal realizado no período de agosto de 2017 até dezembro de 2019. **O instrumento** foi prontuários clínicos. O total da amostra foi 236 prontuários. **Resultados:** houve prevalência do sexo feminino (65%), faixa etária de cinquenta anos ou mais (36,9%), casados (51,6%), com renda mensal entre 501 e 1500 reais (43,1%), escolaridade fundamental incompleto (28,6%), última ida ao dentista a pelo menos 1 ano (53,7%), não fumantes (71,1%), faz higiene bucal 2 vezes ao dia (60,2%). **Conclusão:** Os pacientes apresentam variáveis socioeconômicas e comportamentais significativamente diferentes ($p < 0,01$), logo, a perda dentária está associada a diversos fatores que acometem a saúde bucal e influenciam diretamente na qualidade de vida.

DESCRIPTORIOS: Arcada Edêntula; Saúde Bucal; Epidemiologia.

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INTRODUCTION

Edentulism is a phenomenon still present in the current Brazilian social context, it harms chewing and affects well-being in general, as the smile has connections with the individual's physical and mental health. The term edentulism is used to designate the loss of all natural teeth, which may occur simultaneously, partially or totally.¹⁻²

It has become a public health problem due to its high prevalence and incidence identified, over the course of decades, from epidemiological studies. Difficulties arise in socializing, compromising speech and directly affecting facial aesthetics. Edentulism is a definite condition in contrast to other chronic morbid conditions that are amenable to therapeutic treatment. Thus, tooth loss is assessed as one of the biggest problems resulting from oral pathologies.³⁻⁴

Despite the advances, oral health is still a public health challenge due to the high prevalence and magnitude of the impact on the population. Research on the oral health status of the population, nationwide, is poorly studied. In this sense, epidemiological surveys on oral health took place; those carried out by the Ministry of Health (MS) in 1986, 1996 (only with schoolchildren), 2003 and 2010 (with the national population of Brazil) are highlighted. The fact is that the comparative studies mentioned above show that oral

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health has improved, however, the rate of extracted teeth in adults aged 35 to 44 years, in 1986 was 66%, while a decade later, in 1996, it was 65,7%.⁵

In line with the above, the sample survey of the National Survey of Oral Health, SB Brazil, 2003, showed that the average of lost teeth is 38,9% in adolescents, 13,5% in adults and more than 90% among the elderly. The SB Brazil of 2010 revealed new figures, which positively show that the average of lost teeth in adolescents declined to 17,4%, in adults it decreased to 7,4 and among the elderly it remains above 50%. However, more than half of the elderly population has, on average, 25,3% missing teeth and 53,7% is totally toothless. Thus, more than half of the elderly are affected by edentulism.⁶⁻⁷

In the same focus, the World Health Organization (WHO) determined as a target for the year 2000 that there should be at least 50% of individuals aged 65-74 years with 20 or more teeth in the mouth.⁸ In this regard, SB Brasil showed in 2003 that only 10,3% of Brazilians in this age group had 20 or more teeth present and in SB Brasil 2010 this percentage changed to 11,5%.⁹

Edentulism affects 2,3% of the world population and causes damage to chewing, phonation, digestion and aesthetics, which favors the triggering of social discomfort and causes a negative impact on quality of life. Thus, it is hoped that the gradual loss of teeth will not happen

in all age groups, consequently, abundant oral health. The maintenance of the natural tooth contributes to quality of life, as it maintains health, occlusal functionality and apparent aesthetics.¹⁰⁻¹²

Given the above, this study aimed to investigate the prevalence of edentulism and associated factors in patients seen at the School Clinic of a private University Center, João Pessoa - Paraíba, between the years 2017 and 2019, discussing it with a focus on oral health and quality individual's life span.

METHOD

Epidemiological, quantitative, descriptive, cross-sectional study that had as a source of medical records of patients treated by Clínica Escola at Centro Universitário UNIESP. The project was submitted and approved by the Ethics and Research Committee, process No. 3.353.600 - Plataforma Brasil. The information collected was kept confidential, which ensures the privacy and anonymity of the subjects regarding the confidential data involved in the research.

The sample calculation was performed considering a level of 95%, margin of error of 5% and the prevalence of the effect to be observed was 16,3% based on SB Brazil 2010, with a sample of 236 records, from a retrospective estimate of patients from August 2017 to December 2019.

To compose the sample, clinical re-

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cords of patients treated at the Faculty of Dentistry - UNIESP were included, based on the convenience criterion, in consecutive sampling. The sample excluded medical records of patients under the age of 18, pregnant women, patients with special needs and those who did not present the signed consent form, were legible and filled in properly.

A form was used to collect them. The independent variables analyzed were: gender; age group; marital status; monthly income; schooling; last dental clinic appointment; last visit to the dentist; main complaint/reason for consultation; presence of systemic changes; use of bisphosphonate; smoker; degree of daily oral hygiene; prosthesis use; type of referral; number of missing teeth; most common missing tooth. Dependent variable: edentulism.

A declaration requesting access and use of the files/records was requested from the person designated by the sector in order to carry out the research. The evaluation of the medical records was carried out by the coordinating researcher. A form with questions pertinent to the analysis was filled out carefully, taking into account the nuances of each chart analyzed.

The data from the data collection were tabulated in the Excel for Windows 2016 program and analyzed statistically, with the aid of the SPSS (Statistical Package for Social Science) version 21 and Bioestat programs.^{5,4} Descriptive statistics parameters were used, with the adoption of the usual measures of central tendency and dispersion, in addition to the calculation of the relative frequency (percentage) and the Kolmogorov-Smirnov test to determine the normality of the data. The level of significance adopted was 5%.

RESULTS

Some socioeconomic and behavioral variables were investigated for their association with edentulism. All of them present a significant difference between the selected categories (Table 1).

Table 1 - Socioeconomic and behavioral variables associated with edentulism in patients treated at Centro Universitário UNIESP, João Pessoa - Paraíba, 2017-2019. n = 851.

Variável	Frequência	(%)	Qui-quadrado	p-valor
Gênero				
Masculino	2-98	35,0	74,8	p<0,01a
Feminino	553	65,0		
Faixa etária (anos)				
18 a 29 anos	86	10,1	150,2	p<0,01a
30 a 49 anos	165	19,4		
40 a 49 anos	286	33,6		
≥50 anos	314	36,9		

Estado civil				
Solteiro (a)	287	33,7		
Casado (a)	439	51,6	173,8	p<0,01a
Separado e Viúvo (a)	125	14,7		
Renda mensal (R\$)*				
Até 500	117	14,6		
De 501 a 1500	307	38,4	339,6	p<0,01a
De 1501 a 4500	345	43,1		
> 4500	31	3,9		
Grau de escolaridade*				
Fund. incompleto	230	28,6		
Fund. completo	57	7,1		
Médio incompleto	118	14,7	164,5	p<0,01a
Médio completo	198	24,6		
Superior incompleto	115	14,3		
Superior completo	87	10,8		
Última ida ao dentista				
Pelo menos 1 ano	423	53,7		
Entre 1 e 2 anos	181	23,0	146,8	p<0,01a
3 ou mais anos	184	23,4		
Tabagismo				
Não fumante	605	71,1		
Fumante	74	8,7	563,0	p<0,01a
Ex-fumante	172	20,2		
Higiene bucal diária				
Escova 1x ao dia	197	25,6		
Escova 2x ao dia	463	60,2	265,0	p<0,01a
Escova 3x ao dia	109	14,2		
Total	851	100,0	-	-

Source: Research, 2020. Significant result with p <0,01.

DISCUSSION

The results describe, analyze and compare important differences in the prevalence of edentulism. From Souza et al. (2020) ¹³ found that tooth loss is

a morbid oral process that worsens the health of the individual with implications for their quality of life. Thus, Pengpid and Peltzer (2018) ¹⁴ showed that the permanence of the natural dentition in the oral cavity is funda-

mental for the individual's well-being and quality of life.

Although advances are made in preventive dentistry, edentulism remains a public health problem worldwide. In this perspective, Emami et al. (2013) ¹⁴ showed that it is necessary to know the disease indicators to determine a concrete strategy, through the intervention of an organized oral health system, to prevent, combat and treat this morbid condition. For Douglass, Shih and Ostry (2002) ¹⁶ the prevalence of tooth loss has decreased in the last decade, even so edentulism remains a phenomenon present worldwide, especially among older individuals.

The factors associated with possible tooth loss were due to being female, old age, low education level, family income and last dental appointment more than a year ago. Baldani et al. (2010) ¹⁷ identified that about 40% of adults and 67% of the elderly had not been to the dentist for more than three years. In this sense, the scarce access and use of dental services also contribute to edentulism.

Regarding the degree of oral hygiene Gomes et al. (2020) ¹⁸ assessed the socioeconomic status, social support, belief in oral health, psychosocial factors, health-related behaviors and quality of life of 376 adolescents. They concluded that these factors do interfere with the oral health of young people. The toothbrush, in turn, becomes indispensable and effective as an instrument that helps prevent oral diseases.

Azevedo et al. (2017) ¹⁹ carried out an epidemiological analysis with a sample of 2.404 adults and the elderly; the incidence was that 59.9% needed a prosthesis and 41.9% used a prosthesis. Zhang and Chen (2019) ²⁰ examined the association between childhood socioeconomic status and edentulism. Thus, the monitoring of edentulism is essential as a determining factor in the evaluation of the performance of oral health services and in the adequacy of the population's health surveillance system, only to minimize the impacts on quality of life.

Epidemiological statistics are empathic when addressing the etiological determinants of edentulism, in this regard Pengpid and Peltzer (2018) ²¹ showed that in addition to the social aspects associated with edentulism, caries and periodontal disease stand out, female sex, age,

education, family income and living in rural areas.

CONCLUSION

The realization of the present study enabled the observation that edentulism presents itself in different degrees

of severity and that the associated factors are subject to intervention. There is an emerging need for interventional measures, policies and oral health programs that prioritize the promotion of oral health, the prevention of injuries and the fight against adverse factors to oral health. ■

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