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PREVALÊNCIA DE DIABETES MELLITUS EM INDIVÍDUOS PORTADORES DE PERIODONTITE EM UMA ÁREA RURAL DO SUL DO BRASIL

Santa Maria, RS
2018

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Dissertação apresentada ao Curso de Mestrado do Programa de Pós-Graduação em Ciências Odontológicas, Área de concentração em Odontologia, ênfase em Periodontia da Universidade Federal de Santa Maria (UFSM, RS), como requisito parcial para obtenção do grau de **Mestre em Ciências Odontológicas**.

Orientador: Prof. Dr. Carlos Heitor Cunha Moreira

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Santa Maria, RS
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DEDICATÓRIA

*A **Deus**, Pai celestial que me deu a vida e a oportunidade de realizar este trabalho, além de sempre guiar meus passos me ajudando a progredir.*

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RESUMO

PREVALÊNCIA DE DIABETES MELLITUS EM INDIVÍDUOS PORTADORES DE PERIODONTITE EM UMA ÁREA RURAL DO SUL DO BRASIL

AUTOR: Rodrigo da Cunha Rossignollo Tavares
ORIENTADOR: Carlos Heitor Cunha Moreira

O objetivo deste estudo foi avaliar a prevalência de pacientes com diabetes entre os indivíduos diagnosticados com periodontite usando um ponto de corte que permite identificar casos mais severos e com considerável extensão em uma área rural do Sul do Brasil. A subamostra constituída por 320 indivíduos de 18 a 91 anos de uma amostra representativa de indivíduos com 15 anos ou mais entre a população da zona rural de Rosário do Sul. Foram avaliados: exames clínicos, laboratoriais e questionários estruturados. Diabetes mellitus foi diagnosticada através de exame de hemoglobina glicada. Para ser considerado um caso de periodontite as seguintes parâmetros foram considerados: ≥ 30% dos dentes apresentavam perda de inserção clínica ≥ 5mm. Modelo de regressão logistica ajustada para índice de massa corporal foi construído para estimar a razão de chance e intervalo de confiança (95% IC). A prevalência de diabetes nos indivíduos com periodontite foi de 15,1%. Após ajuste para índice de massa corporal, indivíduos com periodontite tiveram uma maior chance de serem diagnosticados com diabetes (OR = 2,14; IC = 1,02 - 4,52). Foi possível concluir que periodontite severa teve impacto nos níveis glicêmicos causando um aumento desses níveis. Esse fato demonstra que indivíduos com periodontite tiveram uma maior prevalência de diabetes mellitus.

Palavras-chave: Diabetes Mellitus. Doença Periodontal. Hemoglobina Glicada. Periodontite. Prevalência.

ABSTRACT

AUTHOR: Rodrigo da Cunha Rossignollo Tavares
ADVISOR: Carlos Heitor Cunha Moreira

The objective of this study is to evaluate the prevalence of patients with diabetes among the individuals diagnosed with periodontitis using a threshold level that allows identifying more severe cases with considerable extension in a rural area of the South of Brazil. Data from the sub-sample with 320 individuals aged 18 to 91 years of the sample representative of individuals aged 15 years or more among the rural population of Rosário do Sul. Data were collected from the sample through clinical, laboratory and structured questionnaires. Diabetes was diagnosed by examination of glycated hemoglobin. Periodontitis was diagnosed when ≥ 30% of the teeth had clinical attachment loss ≥ 5mm. Logistic regression model adjusted for body mass index was used to estimate odds ratio and confidence interval (95% CI). The prevalence of diabetes in individuals with periodontitis was 15.1%. After adjusting for body mass index, individuals with severe periodontitis had more chance to have diabetes (OR = 2.14; CI = 1.02 - 4.52). It was possible to conclude that severe periodontitis has an impact on glycemic levels causing an increase in these levels. This fact demonstrates that individuals with periodontitis had more diabetes mellitus prevalence.

Keywords: Diabetes Mellitus. Glycated Hemoglobin. Periodontal Disease. Periodontitis. Prevalence.

SUMÁRIO

1. INTRODUÇÃO

Periodontite é uma doença infecto inflamatória crônica destrutiva, cujo fator etiológico é o acúmulo de biofilme, que acomete os tecidos de suporte dos dentes, a interação entre o biofilme e os tecidos periodontais faz com que sejam ativadas células de defesa do hospedeiro e a produção de mediadores inflamatórios que alteram o metabolismo dos tecidos conjuntivo e ósseo causando destruição, estes eventos podem ser influenciados por doenças sistêmicas, fatores genéticos e comportamentais (PAGE; KORNMAN, 1997).

Esta doença pode acometer 50% da população mundial, e 64% dos indivíduos com mais de 65 anos (PETERSEN; OGAWA, 2012; EKE, 2016). Periodontite severa foi em 2010 a sexta doença mais prevalente afetando 10,8% ou 743 milhões de pessoas em todo o mundo sendo uma das maiores causas de perdas dentárias (KASSEBAUM et al., 2014). Desde o início dos anos 90 houve um retorno do interesse em estudar as associações entre diferentes doenças sistêmicas e as doenças periodontais. Doenças cardiovasculares, respiratórias, câncer e diabetes mellitus (DM) têm sido associadas com doenças periodontais (CULLINAN; SEYMOUR, 2013).

DM também é uma das doenças crônicas mais comuns, caracterizada por defeitos na produção e/ou ação da insulina causando hiperglicemia (BORGNAKKE et al., 2013). A hiperglicemia quando não controlada ao longo do tempo pode causar várias complicações sistêmicas como doença cardiovascular, neuropatia e nefropatia, retinopatia, mas se controlada estas complicações podem ser postergadas ou evitadas. Acomete 8,8% ou 424,9 milhões de pessoas em todo mundo. Nos indivíduos com mais de 65 anos a prevalência pode chegar a 18,8%, sendo que 50% não tem conhecimento da sua presença (INTERNATIONAL DIABETES FEDERATION, 2017). É estimado que em 2016 ocorreram 1,6 milhão de mortes em decorrência do diabetes (WHO, 2018).

A relação entre diabetes e periodontite está bem estabelecida, evidências de estudos epidemiológicos e clínicos mostram uma complexa interação entre essas duas doenças (POLAK; SHAPIRA, 2018), o estado hiperglicêmico impulsiona a formação de produtos finais de glicação avançada (AGEs) e a ligação com seus receptores RAGE, esta interação leva a uma disfunção celular imune e contribui

para um desequilíbrio com o aumento de certas citocinas pró-inflamatórias. A hiperglicemia contribui também para níveis aumentados de espécies reativas de oxigênio (ROS) e um estado de estresse oxidativo, direta e indiretamente através do eixo AGE/RAGE, promovendo mudanças quantitativas e qualitativas nos perfis de citocinas. Finalmente a hiperglicemia modula a razão RANKL/OPG novamente direta e indiretamente através do eixo AGE/RAGE levando a uma maior inflamação e maior destruição tecidual (TAYLOR; PRESHAW; LALLA, 2013). Por outro lado a plausibilidade biológica da associação inversa se baseia no fato resposta inflamatória causada pela interação entre os tecidos periodontais e o biofilme patogênico levar a uma maior liberação local e sistêmica de mediadores inflamatórios, como IL-6 e TNF-α (KINANE; PRESHAW; LOOS, 2011), que podem levar a resistência à insulina causando assim hiperglicemia (DANDONA; ALJADA; BANDYOPADHYAY, 2004; ROTTER; NAGAEV; SMITH, 2003).

Periodontite severa está relacionada com aumento na HbA1C (hemoglobina glicada) em indivíduos com e sem diabetes, além disso o tratamento periodontal em pacientes diabéticos pode estar associado a melhora nos níveis glicêmicos (CHAPPLE; GENCO, 2013). Jeffcoat et al. (2014) demonstraram que fazer tratamento periodontal em pacientes portadores de diabetes diminuiu em 39,4% o número de internações hospitalares destes pacientes o que gerou uma economia de 40,2% em custos de tratamentos médicos.

Pouco se sabe da condição glicêmica de indivíduos diagnosticados com periodontite. Desta forma é importante saber a estimativa geral da associação entre ser um paciente com periodontite e a sua condição glicêmica, a hemoglobina glicada permite determinação dessa possível associação. O objetivo deste estudo foi verificar a prevalência de pacientes com diabetes entre os indivíduos diagnosticados com periodontite usando como critério para estabelecer periodontite casos mais severos e com considerável extensão em uma área rural do Sul do Brasil.

2. ARTIGO - PREVALENCE OF DIABETES MELLITUS IN INDIVIDUALS WITH PERIODONTITIS IN A RURAL AREA OF SOUTH BRAZIL

Este artigo será submetido ao periódico Journal of Clinical Periodontology, Wiley, ISSN: 1600-051X, Fator de impacto = 4.046; Qualis A1. As normas para publicação estão descritas no Anexo H.

Prevalence of Diabetes Mellitus in Individuals with Periodontitis living in a Rural Area of South Brazil

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Running Title: Severe periodontitis and diabetes prevalence

Keywords: cross-sectional study, prevalence, glycated hemoglobin, periodontal disease, periodontitis, diabetes mellitus.

Conflict of Interest and Source of Funding:

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Abstract

Aim: This cross-sectional study aimed to evaluate prevalence of patients with diabetes mellitus in individuals diagnosed with severe periodontitis living in a rural area of South Brazil.

Methods: Data from the sub-sample with 320 individuals aged 18 to 91 years were collected of the representative sample of individuals who lived in a rural area. Data were collected from clinical, laboratory exams and structured questionnaires. The diagnosis of diabetes was performed by glycated hemoglobin exam. Individuals were considered as having severe periodontitis if ≥ 30% of their teeth had clinical attachment loss ≥ 5 mm. Logistic regression model adjusted for body mass index was used to estimate odds ratio and confidence interval (95% CI).

Results: Prevalence of diabetes in individuals with periodontitis was 15.1%. After adjusting for body mass index, individuals with severe periodontitis had more chance to have diabetes (OR = 2.14; CI = 1.02 - 4.52).

Conclusion: Severe periodontitis may have an impact on glycemic levels causing an increase in these levels. This fact demonstrates that the individuals with severe periodontitis should be screened for diabetes mellitus.

Clinical Relevance

Scientific rationale for the study: Evidence supports that severe periodontitis impacts glycemic levels.

Principal findings: Diabetes prevalence in individuals with severe periodontitis was 15.1% and they had two times more chance to be diabetics.

Practical implications: Considering that diabetes mellitus is a disease with a high prevalence that can lead to several systemic complications and that half of the diabetic individuals are unaware of their disease, when the diagnosis of severe

periodontitis is determinate, the possibility of undiagnosed diabetes mellitus should be considered.

Introduction

Periodontitis is an infectious-inflammatory disease and may affect 50% of world population and 64% of individuals over 65 years (Eke et al., 2016; Petersen & Ogawa, 2012). Severe periodontitis in 2010 was the sixth most prevalent disease affecting 10.8% or 743 million people worldwide and is a major cause of teeth loss (Kassebaum et al., 2014). Diabetes mellitus is also one of the most common systemic diseases, characterized by failures in the production and/or action of insulin causing hyperglycemia (Borgnakke, Ylostalo, Taylor, & Genco, 2013), which affects 8.8% or 424.9 million people worldwide and 50% are unaware their disease (International Diabetes Federation, 2017). Brazil presents the highest prevalence of diabetes among South American countries (12.5%). In individuals older than 65 years, prevalence may reach 18.8%. Considering only the individuals living in rural areas the prevalence is 6.9% (International Diabetes Federation, 2017).

The relationship between DM and periodontitis is well established, evidence from epidemiological and clinical studies shows a complex interaction between these two diseases (Polak & Shapira, 2018). The hyperglycemic state, that characterizes diabetes, leads to the formation of advanced glycation end products (AGEs) and signaling to RAGE receptors. This interaction leads to immune cell dysfunction and contributes to an imbalance with an increase of certain proinflammatory cytokines. Hyperglycemia also contributes to increased levels of reactive oxygen species (ROS) and a state of oxidative stress, directly and indirectly through the AGE / RAGE axis, promoting quantitative and qualitative changes in cytokine profiles. Finally, hyperglycemia modulates the RANKL / OPG ratio again directly and indirectly via the AGE / RAGE axis tipping the balance towards enhanced inflammation and destruction (Taylor, Preshaw, & Lalla, 2013).

Severe periodontitis is associated with increased glycemia in individuals with and without diabetes, and periodontal treatment in diabetic patients may be associated with improvement in glycemic levels (Chapple & Genco, 2013).

Little is known about the glycemic condition of individuals diagnosed with periodontitis, a recent systematic review (Ziukaite, Slot, & Van der Weijden, 2018)

concluded that are needed more studies using appropriated epidemiologic sampling in different geographical regions and that self-reported diabetes underestimates the prevalence when compared to clinically assessed diabetes, therefore, studies in different regions such as rural areas and the use of glycated hemoglobin exams (HbA1c) to diabetes diagnosis become important. Our hypothesis was that individuals with severe periodontitis have higher diabetes mellitus prevalence. The aim of this study was to evaluate the prevalence of diabetes among individuals diagnosed with severe periodontitis.

Materials and methods

Study sample

This cross-sectional study, evaluated a fraction of representative sample of individuals living in a rural area of Rosário do Sul, Brazil. The examination were done between march of 2015 and may of 2016, a detailed description of the sampling methodology is described for Ferreira et al. 2018. Individuals with less than two teeth and with glycated hemoglobin exam between ≥5.7-<6.5 were not included at present analysis.

Interviews and clinical examination

Structured questionnaires were used for the interviews individually and performed by trained dentists, face to face. Sociodemographic, economic, medical and behavioral data were collected in the interview.

Two dentists performed the clinical examinations in a mobile unit that consisted of a trailer equipped with a complete dental unit (dental chair, artificial light, compressor, dental x-ray machine, and others basic amenities)

Complete periodontal exam was performed in all permanent teeth, excluding third molars, using a UNC-15 probe (Neumar®, São Paulo, Brazil). Six sites per tooth were assessed in the mesiobuccal, midbuccal, distobuccal, distolingual, midlingual and mesiolingual sites.

Presence of plaque on tooth surfaces assessed by Visible Plaque Index (VPI) and presence of gingival inflammation was evaluated with Gingival Bleeding Index (GBI) (Ainamo & Bay, 1975). Pocket probing depth (PPD) was measured from free gingival margin to the bottom of the pocket/sulcus. Bleeding and suppuration on probing were registered dichotomously after PPD measurement. Clinical attachment loss (CAL)

was defined as the distance from cementoenamel junction (CEJ) to the bottom of the pocket/sulcus. Measurements were made in mm and were rounded for nearest whole mm.

Blood samples were collected in ≥18-year-old individuals, according to WHO guidelines on drawing blood (2010). The collected quantity and the storage followed laboratory rules. Complete blood count, high-sensitivity C-reactive protein (hs-CRP) and glycated hemoglobin exams were analyzed.

The anthropometric exam included height and weight measured with a portable stadiometer and a digital scale (Glass 200, G·TECH), respectively. All measurements were taken twice and followed the anthropometry manuals of IBGE (2013) and (Centres for Disease Control and Prevention, 2007). Body Mass Index (BMI) was calculated as weight (kilograms) divided by height (meters) squared.

Training and calibration

The examiners were trained to perform all assessments. The training comprehended definitions of clinical and physic parameters, measuring instruments, correct measuring techniques and clinical photographs. A manual containing instructions about data collection and instruments management for use in the fieldwork also were received.

Calibration for PPD and CAL was performed previously to the data collection and during the study. The reproducibility (intra- and inter-examiners) was tested from repeated measurements with a minimal interval of one hour and ≥1000 sites, which corresponded to approximately seven individuals. In the previous calibration, one experienced examiner was considered the gold standard (TGM) and she examined 14 individuals (full-mouth). Each other examiners (MC and JB) evaluated two quadrants crossover of the same individuals (n=14) to obtain the minimal number of sites necessary. During the study, the calibration was performed just between the two examiners (MC and JB) who collected the study clinical data. The intra- and inter- examiners agreements for PPD and CAL was verified with the Intra-class Correlation Coefficient (ICC). The ICC values for intra-examiner reproducibility varied between 0.89 and 0.93 for PPD, and between 0.88 and 0.99 for CAL. The inter-examiner ICC values range between 0.89 and 0.96 (PPD) and between 0.84 and 0.97 (CAL).

Ethical considerations

The study was approved by the Ethics Committee in Research of Federal University of Santa Maria (CAAE: 37862414.5.0000.5346) and was performed in accordance with Declaration of Helsinki (1964, revised in 1975, 1983, 1989, 1996, and 2000).
Individuals who agreed to participate signed an informed consent form. All participants received a written report detailing their oral status and they were referred to treatment if any health alteration was presented.

Case definition

Diabetes mellitus was according to the American Diabetes Association (American Diabetes Association, 2018) and International Diabetes Federation (International Diabetes Federation, 2017), the subject was considered diabetic when glycated hemoglobin was greater than 6.5%. Individuals were considered as having periodontitis if they had ≥ 30% of their teeth with CAL ≥ 5 mm (Tonetti & Claffey, 2005).

Data analysis

Based on BMI recordings participants were defined as; healthy weight: > 25 kg/m2, overweight: 25 - 30 kg/m2 or obese: > 30 kg/m2 (WHO, 1995).
Differences between groups were compared by Chi-square test and Mann-Whitney test. Logistic regression was used to model the association between for periodontitis and diabetes mellitus. Data were analyzed by univariable and multivariable models, and crude and adjusted ORs and their 95% confidence intervals (CI) were calculated and reported. Wald tests were used to estimate statistical significance. The analysis unit was the individual. The significance level was 5%. Analysis were performed using SPSS 21.0.

Results

The sample consisted of 320 dentate individuals aged 18 to 91 years, of which 34 (10.6%) were diagnosed with diabetes. Prevalence in the representative sample which included edentulous individuals was 5.8%. The demographic, behavior and clinical characteristics are described in table 1. More than 90% of individuals reported brushing their teeth twice or more times a day and a half never smoked. CRP was higher and statistically significant in diabetics. Among the clinical variables, only CAL and teeth number were statistically significant, diabetics had highest CAL and lower teeth number.

The overall prevalence of periodontitis was 39.4% and among then, 15.1% were diabetic. On the other hand, 55.9% of diabetics were diagnosticated with periodontitis. After adjusted for BMI, individuals with periodontitis presented approximately twice more chance to have diabetes (OR = 2.14; CI = 1.02 - 4.52) (Table 2). Individuals who presented poor glycemic controlled had a higher prevalence of periodontitis, HbA1c > 7 (66,7%), 8 and 9% (60%).

More than 70% of diabetics with periodontitis presented less than 20 teeth, among the non-diabetics 90% of individuals without periodontitis presented more than 20 teeth (Figure 1). Approximately 70% of diabetics with periodontitis were older than 51 years and none of the diabetics individuals in the extract younger than 36 years presented periodontitis (Figure 2).

Discussion

Diabetes prevalence in individuals with severe periodontitis was higher (p = 0.03) and presented twice more chance to be diabetics after adjusting for BMI. The effect of diabetes on periodontitis is well established with diabetes been an important risk factor for periodontitis (Preshaw, Alba, Herrera, & Jepsen, 2012). Also, have been studied the effect of periodontitis on diabetes, this relation can be explained by mechanism where the systemic inflammation induced by periodontitis may lead an increase of insulin resistance increasing glycemic levels and long-term contributing for development the diabetes complications (Lalla & Papapanou, 2011).

Taylor et al. (1996) in a longitudinal study evaluated the association between severe periodontitis and risk for poor glycemic control and observed that the participants with periodontitis diagnostics on baseline presented approximately twice more risk to have poor glycemic control after at least 2 years of evaluation (OR = 1.94 CI = 1.08 - 3.48). In another longitudinal study, Morita et al. (2012) verified that individuals who presented in baseline Community Periodontal Index 4 had three times more risk to become diabetes (RR 3.45 CI = 1.08 - 11.02) in five years follow-up, after adjusting for alcohol, smoke, sex, BMI and age. In the same way, Graziani et al. (2017) in a systematic review, observed that individuals with periodontitis had more chance to develop diabetes type 2 (HR 1.19 - 1.33). Another systematic review evaluating studies in South America population found more than four times diabetes in individuals with periodontitis (OR = 4.61; CI = 2.75 - 7.75), but when considering

studies from other continents an OR of 2.27 was observed (CI = 1.90 - 2.72) (Ziukaite, Slot, & Van der Weijden, 2018). As periodontitis has been shown to be a factor in increasing glycemic levels, periodontal treatment may be an important factor in decreasing these levels. According to a systematic review, the conventional periodontal treatment may decrease in mean 0.4% of glycated hemoglobin levels (Simpson et al., 2015), being that a mean decrease of 0.2% may lead to a reduction of 10% in mortality between 2-5 years (Khaw et al., 2001). These results reinforce the potential effects of periodontal disease on glycemic status and the importance for diagnostic possible diabetics among periodontal patients. As a result of high periodontal diseases prevalence and more demand for dental care compared to medical care, there is a possibility to screening earlier systemic diseases such as DM, in dental settings (Sanz et al., 2018).

This study used periodontitis case definition criteria which the individuals present higher severity and extension of disease. In this scenario, the exposure and release, local and systemic of inflammatory mediators such as tumor necrosis factor- α (TNF-α) and interleukin-6 (IL-6) is higher (Kinane, Preshaw, & Loos, 2011), these are the main inducers of acute phase proteins including CRP (Pepys & Hirschfield, 2003), increased levels of these substances may contributing to insulin resistance (Dandona, Aljada, & Bandyopadhyay, 2004; Rotter, Nagaev, & Smith, 2003) and how observed by Wang et al. (2013) in a systematic review elevated levels of IL-6 and CRP increased risk of type 2 diabetes. Thus, exposure to periodontitis may favor these mechanisms by impairing glycemic metabolism and favoring hyperglycemia states. Individuals diabetics had increased CRP levels compared to non-diabetics, indicating a higher inflammatory status. On the other hand, reverse causality is also possible, whereas individuals with diabetes have a higher risk of having periodontitis. In spite of this, this study confirms through the analysis of a representative sample, with a prevalence of diabetes compared to other populations (5.8%), that in individuals with periodontitis, the prevalence of diabetes is higher (15.1%). BMI is an important risk factor for diabetes and in this study was observed in the crude analyzes three times more chance of obese individuals being diabetic (OR = 3.16; CI = 1.83 - 5.48). Obesity leads to a higher concentration of IL-6 and in the same way that inflammation caused by periodontitis can lead to insulin resistance (Rotter, Nagaev, & Smith, 2003), this mechanism as well as being a risk factor for diabetes is also associated with a higher chance of severe periodontitis. A systematic review

showed an increase of 35% in the prevalence of periodontitis among obese adults (Chaffee & Weston, 2010).

With an increase of age occur a higher prevalence of periodontitis due to an effect of attachment loss cumulative observed over time. A higher prevalence of both periodontitis and diabetes with increasing age were observed. When we evaluated through age stratus, no diabetic individuals with periodontitis were observed with less than 36 years and half of the individuals with diabetes in the other strata were diagnosed with periodontitis.

Among the limitations of this study, we have a limited number of individuals with diabetes, which limits the construction of stable models and that may include several predictors. Among the forces are the methodology used to obtain the sample, the use of complete periodontal exams by calibrated examiners and the determination of diabetes by laboratory tests of glycated hemoglobin where the prevalence is 2.7 times higher compared to self-reported diabetes (Ziukaite, Slot, & Van der Weijden, 2018).

The association between periodontitis and diabetes seems to have a consistency. Our results which important carefully methodological was followed reinforce previous findings in which they were subject to different bias (Demmer, Desvarieux, & Jacobs, 2008; Nesse et al., 2010). From the knowledge of this association, it may be the role of periodontal diagnosis an evaluation of diabetes, in order to diagnose possible pre-diabetes or undiagnosed diabetes (Holm et al., 2016; Sanz et al., 2018; Maurizio S. Tonetti, Jepsen, Jin, & Otomo-Corgel, 2017). It can be concluded that individuals diagnosed with severe periodontitis have a higher prevalence of diabetes. This fact should be considered at the moment of the diagnosis of periodontitis and when other possible risk factors for diabetes are also detected in anamnesis done at dental offices, guiding individuals about the possibility of diabetes.

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Tables

Table 1. Demographic, behavior, laboratory and clinical characteristics.

Variables	Non Diabetic n= 286	Diabetic n= 34	p value
Age	43.6 ± 15.20	57.24 ± 14.92	0.001*
Gender			0.24**
Female	138 (48.3)	20 (58.8)	
Male	148 (51.7)	14 (41.2)	
Study years	6.39 ± 3.61	5.79 ± 3.35	0.31*
Toothbrush frequency			0.12**
< 2 times/day	19 (6.7)	-	
>= 2 times/day	266 (93.3)	34 (100)	
Smoking			0.36**
Never Smoker	149 (52.3)	18 (52.9)	
Former Smoker	86 (30.2)	13 (38.2)	
Current Smoker	50 (17.5)	3 (8.8)	
HbA1c %	5.35 ± 0.23	7.64 ± 1.6	0.001*
hs-CRP (mg/L)	4.58 ± 9.06	6.32 ± 8.92	0.006*
BMI			0.001**
>25	101 (35.6)	3 (8.8)	
25-30	111 (39.1)	10 (29.4)	
>30	72 (25.4)	21 (61.8)	
VPI	60.39 ± 24.03	68.93 ± 23.93	0.068*
GBI	23.72 ± 19.27	25.81 ± 20.15	0.51*
PPD	2.35 ± 0.77	2.40 ± 0.80	0.90*
CAL	3.01 ± 1.79	3.90 ± 2.15	0.008*
BoP %	44.73 ± 26.66	44.43 ± 27.73	0.91*
Teeth number	22.71 ± 7.77	16.65 ± 9.13	0.001*

*Mann-Whitney; **qui-square test.

Table 2. Crude and adjusted effects on diabetes

	Crude effect			Adjusted effect		
	OR	95% CI	p-Value	OR	95% CI	p-Value
Periodontitis	2.11	1.03-4.34	0.04	2.14	1.02-4.52	0.04
BMI	3.16	1.83-5.48	0.001	3.16	1.83-5.49	0.001

Figures

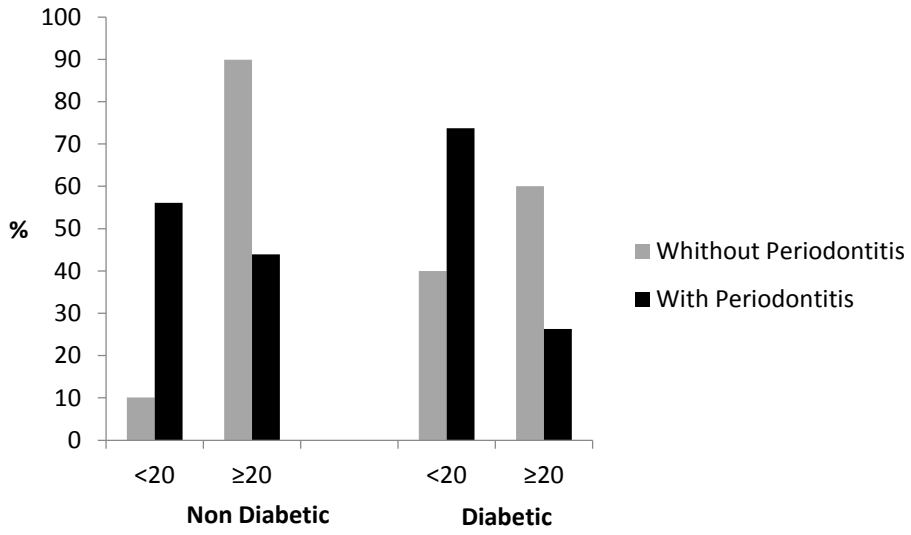

Fig. 1 Teeth number between non-diabetic and diabetic by periodontitis case definition.

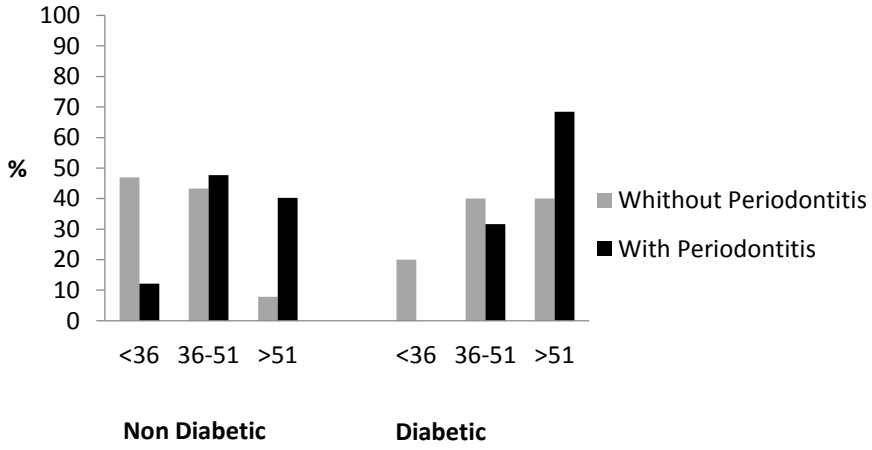

Fig. 2 Age extracts among non-diabetic and diabetic by periodontitis case definition.

3. CONCLUSÃO

Com base nos resultados desta dissertação, foi possível concluir que a presença de periodontite tem impacto nos níveis glicêmicos causando um aumento nesses níveis. Pode ser concluído que indivíduos com diagnóstico de periodontite com considerável extensão e severidade têm maior prevalência de diabetes.

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ANEXO A – APROVAÇÃO DO COMITÊ DE ÉTICA EM PESQUISA DA UNIVERSIDADE FEDERAL DE SANTA MARIA

UNIVERSIDADE FEDERAL DE SANTA MARIA/ PRÓ-REITORIA DE PÓS-GRADUAÇÃO E

PARECER CONSUBSTANCIADO DO CEP

DADOS DA EMENDA

Título da Pesquisa: LEVANTAMENTO EPIDEMIOLÓGICO NA ÁREA RURAL DE ROSÁRIO DO SUL/RS

Pesquisador: CARLOS HEITOR CUNHA MOREIRA

Área Temática:

Versão: 4

CAAE: 37862414.5.0000.5346

Instituição Proponente: Universidade Federal de Santa Maria/ Pró-Reitoria de Pós-Graduação e

Patrocinador Principal: Financiamento Próprio
Universidade Federal de Santa Maria/ Pró-Reitoria de Pós-Graduação e Pesquisa

DADOS DO PARECER

Número do Parecer: 1.500.519

Apresentação do Projeto:

Pela emenda o proponente solicita alteração no orçamento do projeto original. O mesmo informa que "o projeto apresentado inicialmente descreve e detalha, de uma maneira ampla, os materiais e orçamentos referentes à coleta. A partir do momento no qual se iniciam as análises dos dados, mais especificamente a análise microbiológica, será necessário adquirir alguns materiais referentes ao processamento das amostras. Estes de fundamental importância por serem os reagentes utilizados no processamento. O recurso para a compra dos mesmos já está disponível."

Pelo que foi apresentado, entende-se que a solicitação pode ser aprovada.

Objetivo da Pesquisa:

-

Avaliação dos Riscos e Benefícios:

Endereço: Av. Roraima, 1000 - prédio da Reitoria - 2º andar
Bairro: Camobi **CEP:** 97.105-970
UF: RS **Município:** SANTA MARIA
Telefone: (55)3220-9362 **E-mail:** cep.ufsm@gmail.com

UNIVERSIDADE FEDERAL DE SANTA MARIA/ PRÓ-REITORIA DE PÓS-GRADUAÇÃO E

Continuação do Parecer: 1.500.519

Comentários e Considerações sobre a Pesquisa:

.

Considerações sobre os Termos de apresentação obrigatória:

.

Recomendações:

Veja no site do CEP - http://w3.ufsm.br/nucleodecomites/index.php/cep - na aba "orientações gerais", modelos e orientações para apresentação dos documentos. ACOMPANHE AS ORIENTAÇÕES DISPONÍVEIS, EVITE PENDÊNCIAS E AGILIZE A TRAMITAÇÃO DO SEU PROJETO.

Conclusões ou Pendências e Lista de Inadequações:

.

Considerações Finais a critério do CEP:

Este parecer foi elaborado baseado nos documentos abaixo relacionados:

Tipo Documento	Arquivo	Postagem	Autor	Situação
Informações Básicas do Projeto	PB_INFORMAÇÕES_BÁSICAS_695043_E3.pdf	09/04/2016 23:39:25		Aceito
Orçamento	ORCAMENTO_1.pdf	09/04/2016 23:24:52	CARLOS HEITOR CUNHA MOREIRA	Aceito
Outros	emenda_orcamento.pdf	09/04/2016 23:20:42	CARLOS HEITOR CUNHA MOREIRA	Aceito
TCLE / Termos de Assentimento / Justificativa de Ausência	Assentimento. escolas urbanas.pdf	03/08/2015 16:29:52		Aceito
Outros	emenda. escolares urbanos.pdf	03/08/2015 16:29:24		Aceito
Outros	QRR.pdf	13/02/2015 15:18:39		Aceito
Outros	AUTOPERCEPÇÃO DE DP.pdf	12/02/2015 21:08:27		Aceito
Outros	ESTRESSE PERCEBIDO.pdf	12/02/2015 21:07:04		Aceito

Endereço: Av. Roraima, 1000 - prédio da Reitoria - 2º andar
Bairro: Camobi **CEP:** 97.105-970
UF: RS **Município:** SANTA MARIA
Telefone: (55)3220-9362 **E-mail:** cep.ufsm@gmail.com

UNIVERSIDADE FEDERAL DE SANTA MARIA/ PRÓ-REITORIA DE PÓS-GRADUAÇÃO E

Continuação do Parecer: 1.500.519

TCLE / Termos de Assentimento / Justificativa de Ausência	TCLE_10 a 14 anos.pdf	12/02/2015 21:06:26		Aceito
TCLE / Termos de Assentimento / Justificativa de Ausência	emenda TCLE menor de 18anos.pdf	12/02/2015 21:06:05		Aceito
TCLE / Termos de Assentimento / Justificativa de Ausência	emenda TCLE maior de 18anos.pdf	12/02/2015 21:05:51		Aceito
Projeto Detalhado / Brochura Investigador	EMENDA CONDIÇÃO ENDODÔNTICA.pdf	12/02/2015 21:05:28		Aceito
Outros	EMENDA levantamento epidemiol..pdf	12/02/2015 21:04:55		Aceito
Outros	AUTORIZAÇÃO Institucional.pdf	23/10/2014 16:52:50		Aceito
Folha de Rosto	folha de rosto plataforma.pdf	23/10/2014 16:51:08		Aceito
Declaração de Pesquisadores	Projetos na íntegra. SIE.pdf	22/10/2014 14:33:13		Aceito
Outros	Termo de Confidencialidade levantamento.pdf	22/10/2014 14:31:11		Aceito
TCLE / Termos de Assentimento / Justificativa de Ausência	TCLE maior de 18 anos.pdf	21/10/2014 21:41:15		Aceito
TCLE / Termos de Assentimento / Justificativa de Ausência	assentimento menor de 18 anos.pdf	21/10/2014 21:41:00		Aceito
Outros	AUTORIZAÇÃO. exames laboratoriais.pdf	21/10/2014 20:46:46		Aceito
Outros	AUTORIZAÇÃO . unidade móvel.pdf	21/10/2014 20:46:26		Aceito
Outros	AUTORIZAÇÃO para execução.pdf	21/10/2014 20:46:06		Aceito
Projeto Detalhado / Brochura Investigador	PROJETO. 21.10.14.pdf	21/10/2014 20:42:20		Aceito

Situação do Parecer:
Aprovado

Necessita Apreciação da CONEP:
Não

Endereço: Av. Roraima, 1000 - prédio da Reitoria - 2º andar
Bairro: Camobi **CEP:** 97.105-970
UF: RS **Município:** SANTA MARIA
Telefone: (55)3220-9362 **E-mail:** cep.ufsm@gmail.com

UNIVERSIDADE FEDERAL DE SANTA MARIA/ PRÓ-REITORIA DE PÓS-GRADUAÇÃO E

Continuação do Parecer: 1.500.519

SANTA MARIA, 14 de Abril de 2016

Assinado por:
CLAUDEMIR DE QUADROS
(Coordenador)

Endereço: Av. Roraima, 1000 - prédio da Reitoria - 2º andar
Bairro: Camobi **CEP:** 97.105-970
UF: RS **Município:** SANTA MARIA
Telefone: (55)3220-9362 **E-mail:** cep.ufsm@gmail.com

ANEXO B – TERMO DE CONSENTIMENTO LIVRE E ESCLARECIDO

Universidade Federal de Santa Maria
Centro de Ciências da Saúde
Programa de Pós-Graduação em Ciências Odontológicas

TERMO DE CONSENTIMENTO LIVRE E ESCLARECIDO

Título do projeto: Levantamento epidemiológico na área rural de Rosário do Sul-RS
Pesquisador responsável: Carlos Heitor Cunha Moreira
Instituição/Departamento: Universidade Federal de Santa Maria / Programa de Pós-Graduação em Ciências Odontológicas.
Telefone para contato (inclusive a cobrar): (55) 9106-4673
Pesquisadores participantes: Jociana Boligon e Ticiane de Góes Mário.
Telefone para contato (inclusive a cobrar): (55) 9978-0866 e (55) 9903-5101

- Você está sendo convidado(a) para participar, como voluntário, em uma pesquisa. Você precisa decidir se quer participar ou não. Por favor, não se apresse em tomar a decisão. Leia cuidadosamente o que se segue e pergunte ao responsável pelo estudo qualquer dúvida que você tiver. Após ser esclarecido sobre as informações a seguir, no caso de aceitar fazer parte do estudo, assine ao final deste documento, que está em duas vias. Uma delas é sua e a outra é do pesquisador responsável. Em caso de recusa você não será penalizado de forma alguma.
- Essa pesquisa justifica-se pela necessidade de conhecimento das condições periodontais e saúde geral de uma população que, pela localização geográfica, extensão territorial, diversidades socioeconômica e cultural, tem dificuldade de acesso à assistência médica e odontológica integral.
- A sua participação nesse estudo será no sentido de permitir a avaliação da sua boca, de suas medidas corporais e de responder a alguns questionários. Serão anotados dados sobre a quantidade de dentes perdidos, restaurados, obturados e cariados; a presença de placa (tecido amolecido amarelo-esbranquiçado) e cálculo dentário (tecido duro de cor mais escura) formados sobre seus dentes; a ocorrência de sangramento ou pus na sua gengiva e medidas de perda de osso ao redor dos seus dentes, quando encostamos um instrumento odontológico (sonda periodontal milimetrada) entre essas duas estruturas e se há alteração na gengiva após esta ser corada com uma substância inofensiva à sua saúde. Você responderá a questionários, de rápida execução, sobre consultas ao dentista, presença de doenças ou alterações em seu organismo, uso de remédios, hábitos alimentares e comportamentais, nível de educação, renda familiar e qualidade de vida. Seu peso e sua altura serão medidos para análise do seu Índice de Massa Corporal. Também mediremos a circunferência da sua cintura e verificaremos sua pressão arterial, e um técnico em enfermagem capacitado (de um laboratório conveniado da prefeitura do município) coletará amostras de sangue para melhor avaliarmos sua saúde geral.
- Você poderá se sentir cansado e ter algum desconforto nos exames em que um instrumento odontológico é passado entre sua gengiva e seus dentes, além de haver um risco mínimo de se machucar com o instrumento caso ocorra um movimento brusco de sua parte ou do examinador. Após os exames você poderá ficar com dor leve em sua gengiva. Desconforto também poderá ser sentido durante a coleta de material sanguíneo. Além disso, você poderá se sentir constrangido ou cansado em responder as questões dos questionários ou, ainda durante medição do seu peso e altura. Caso haja dano odontológico com a pesquisa você terá direito a assistência odontológica gratuita garantida pelos pesquisadores.

- O benefício direto a você, participante, será um relatório odontológico detalhado sobre a condição de sua boca e, se necessário, encaminhamento para tratamento odontológico no Serviço de Saúde Municipal ou nas Clínicas Odontológicas da Universidade Federal de Santa Maria e uma avaliação complementar do seu estado de saúde geral.
- Você terá acesso aos profissionais responsáveis pela pesquisa para esclarecimento de eventuais dúvidas em qualquer etapa do estudo. É garantido o livre acesso a todas as informações e, sendo de seu interesse, você será mantido atualizado sobre os resultados finais da pesquisa após a publicação da mesma.
- Se você concordar em participar do estudo, seu nome e identidade serão mantidos em sigilo. A menos que requerido por lei ou por sua solicitação, somente a equipe do estudo e o Comitê de Ética terão acesso a suas informações. As informações do estudo serão divulgadas apenas em eventos ou publicações científicas sem identificação dos voluntários. As fichas clínicas e os questionários, após analisados, ficarão guardados na Clínica de Periodontia da UFSM Santa Maria/RS. (Antigo Prédio da Reitoria, Rua Marechal Floriano Peixoto, número 1184, 7º andar, sala 710) por 5 anos, a fim de possibilitar esclarecimentos posteriores ao término do estudo, conforme nova resolução do CNS 466/12, e, depois, imediatamente destruídos por incineração. Exames de sangue serão fornecidos ao paciente, nós ficaremos com uma cópia do mesmo, que será armazenada como descrito acima.
- Você pode se recusar a participar do estudo, ou retirar seu consentimento e sair da pesquisa a qualquer momento, mesmo durante o exame, sem precisar justificar.

Eu, _____, de nacionalidade _____, com _____ anos de idade, estado civil _____, profissão _____, residente em _____, RG nº _____, abaixo assinado, concordo em participar do estudo como sujeito. Fui suficientemente informado (a) a respeito das informações que li ou que foram lidas para mim, descrevendo o estudo **"Levantamento epidemiológico na área rural de Rosário do Sul-RS".** Eu discuti com a pesquisadora _____ sobre a minha decisão em participar nesse estudo. Ficaram claros para mim quais são os propósitos do estudo, os procedimentos a serem realizados, seus desconfortos e riscos, as garantias de confidencialidade e de esclarecimentos permanentes. Estou totalmente ciente de que não há nenhum valor econômico, a receber ou pagar, por minha participação. Ficou claro também que minha participação é isenta de despesas. Concordo voluntariamente em participar deste estudo e poderei retirar o meu consentimento a qualquer momento, antes ou durante o mesmo, sem penalidades ou prejuízo.

Rosário do Sul, _____ de _____ de 201__.

_____
Nome e Assinatura do sujeito

Declaro que obtive de forma apropriada e voluntária o Consentimento Livre e Esclarecido deste sujeito de pesquisa ou representante legal para a participação neste estudo:

_____
Nome e assinatura do pesquisador responsável

_____

Se você tiver alguma consideração ou dúvida sobre a ética da pesquisa, entre em contato: Comitê de Ética em Pesquisa – UFSM - Cidade Universitária - Bairro Camobi, Av. Roraima, nº1000 - CEP: 97.105.900 Santa Maria – RS. Telefone: (55) 3220-9362 – Fax: (55)3220-8009 Email: comiteeticapesquisa@smail.ufsm.br. Web: www.ufsm.br/cep

ANEXO C – FICHA DE EXAME SUPRAGENGIVAL

Data: ____/____/ 20____ Nº: _____

Nome:_____ Gênero: ☐ F ☐ M
Idade: _____ anos. Data de nascimento: ____/____/_____
Telefone(s): _____
Nome e contato de um parente:_____

Distrito: ☐ Campo Seco ☐ Caverá ☐ Mangueiras ☐ Rosário ☐ São Carlos ☐ Touro Passo

EXAME PERIODONTAL SUPRAGENGIVAL

	17			16			15			14			13			12			11			21			22			23			24			25			26			27		
	D	V	M	D	V	M	D	V	M	D	V	M	D	V	M	D	V	M	D	V	M	M	V	D	M	V	D	M	V	D	M	V	D	M	V	D	M	V	D	M	V	D
IPV																																										
ISG																																										
FRP																																										
	D	P	M	D	P	M	D	P	M	D	P	M	D	P	M	D	P	M	D	P	M	M	P	D	M	P	D	M	P	D	M	P	D	M	P	D	M	P	D	M	P	D
IPV																																										
ISG																																										
FRP																																										
	47			46			45			44			43			42			41			31			32			33			34			35			36			37		
	D	V	M	D	V	M	D	V	M	D	V	M	D	V	M	D	V	M	D	V	M	M	V	D	M	V	D	M	V	D	M	V	D	M	V	D	M	V	D	M	V	D
IPV																																										
ISG																																										
FRP																																										
	D	L	M	D	L	M	D	L	M	D	L	M	D	L	M	D	L	M	D	L	M	M	L	D	M	L	D	M	L	D	M	L	D	M	L	D	M	L	D	M	L	D
IPV																																										
ISG																																										
FRP																																										

PRESENTES:

☐ 18 ☐ 28

☐ 48 ☐ 38

USO DE PRÓTESES: ☐ Sim ☐ Não

Superior: ☐ PT ☐ PPR (___ elementos)

Inferior: ☐ PT ☐ PPR (___ elementos)

(PT: Prótese total/ PPR: Prótese parcial removível)

ANEXO D – FICHA DE EXAME SUBGENGIVAL

Data: ____/____/ 20____ Nº: _____

Nome:_____ Gênero: ☐ F ☐ M

Idade: _____ anos. Data de nascimento: ____/____/_____

Telefone(s): _____

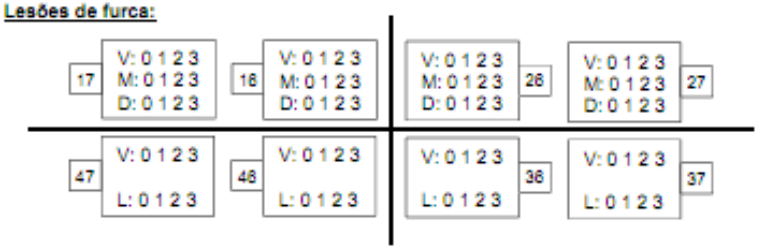
Nome e contato de um parente:_____

Distrito: ☐ Campo Seco ☐ Caverá ☐ Mangueiras ☐ Rosário ☐ São Carlos ☐ Touro Passo

EXAME PERIODONTAL SUBGENGIVAL

	17			16			15			14			13			12			11			21			22			23			24			25			26			27		
	D	V	M	D	V	M	D	V	M	D	V	M	D	V	M	D	V	M	D	V	M	M	V	D	M	V	D	M	V	D	M	V	D	M	V	D	M	V	D	M	V	D
PS																																									
SS																																									
NIC																																									
	D	P	M	D	P	M	D	P	M	D	P	M	D	P	M	D	P	M	D	P	M	M	P	D	M	P	D	M	P	D	M	P	D	M	P	D	M	P	D	M	P	D
PS																																									
SS																																									
NIC																																									
	47			46			45			44			43			42			41			31			32			33			34			35			36			37		
	D	V	M	D	V	M	D	V	M	D	V	M	D	V	M	D	V	M	D	V	M	M	V	D	M	V	D	M	V	D	M	V	D	M	V	D	M	V	D	M	V	D
PS																																									
SS																																									
NIC																																									
	D	L	M	D	L	M	D	L	M	D	L	M	D	L	M	D	L	M	D	L	M	M	L	D	M	L	D	M	L	D	M	L	D	M	L	D	M	L	D	M	L	D
PS																																									
SS																																									
NIC																																									

Lesões de furca:



ANEXO E – QUESTIONÁRIO 1 E FICHA PARA REGISTRO DE MEDIDAS ANTROPOMÉTRICAS

Data: ____/____/ 20____ Nº: _____

Nome: _____ Gênero: ☐ F ☐ M

Idade: _____ anos. Data de nascimento: ____/____/_____

Telefone(s): _____

Nome e contato de um parente: _____

Distrito: ☐ Campo Seco ☐ Caverá ☐ Mangueiras ☐ Rosário ☐ São Carlos ☐ Touro Passo

MEDIDAS ANTROPOMÉTRICAS:

Peso: _____ _____ _____

Altura: _____ _____ _____

Circunferência da cintura: _____ _____ _____

IMC: _____

Pressão arterial: _____ _____ _____

QUESTIONÁRIO 1: NS= não sei

1) Quantas vezes você escova seus dentes por dia? 0 1 2 3 4 5 6 7 8 NS _____
2) Quanto tempo você gasta para escovar os dentes (minutos)? 1 2 3 4 5 6 7 8 NS _____
3) Que tipo de escova usa? Extra-macia Macia Média Dura NS
4) Quanto tempo você demora em trocar de escova (meses)? 1 2 3 4 5 6 NS _____
5) Faz uso de pasta de dente? Sim Não Qual? _____ NS. Em que quantidade? Grande Média Razoável Pequena
6) Faz uso de algum dispositivo para limpar entre seus dentes? Sim Não. Qual? Fio Fita Superfloss Palito _____
7) Com que frequência você usa esse dispositivo (vezes/dia)? 1 2 3 4 5 6 7 8 _____
8) Faz uso de alguma solução para bochecho? Sim Não. Qual? _____
9) Percebe gengivas inchadas? Sim Não Às vezes NS
10) Percebe se sangra sua gengiva? Sim Não Às vezes NS
11) Sente mau gosto na boca? Sim Não Às vezes NS
12) Sente sensibilidade nos dentes? Sim Não Às vezes NS
13) Você costuma ir ao dentista? Sim Não. Quantas vezes por ano? 1 2 3 4 5 _____. Por quais motivos? Dor Revisão _____
14) Qual a sua cor/raça? Branca Parda Preta Amarela Indígena NS _____
15) Qual é a renda mensal da sua família (reais)? _____
16) Quantos anos você estudou? 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 _____

ANEXO F – QUESTIONÁRIO 2

Data: ____/____/ 20____ Nº: _____

Nome:_____Gênero: ☐ F ☐ M
Idade: _____ anos. Data de nascimento: ____/____/_____
Telefone(s): _____
Nome e contato de um parente:_____

Distrito: ☐ Campo Seco ☐ Caverá ☐ Mangueiras ☐ Rosário ☐ São Carlos ☐ Touro Passo

QUESTIONÁRIO 2: NS= não sei

1) Você usa algum medicamento regularmente? Sim Não. Se sim, qual (is)? _____
_____ Não lembro NS
2) Você tem alguma doença de ordem geral? Sim Não. Qual (is)? _____
_____
3) Você já quebrou algum osso? Sim Não NS. Se sim, qual osso? _____
e com quantos anos?_____ NS
4) Seu pai ou sua mãe quebraram o osso do quadril ou o fêmur? Sim Não NS
5) Você fuma? Sim Não. Quantos cigarros por dia? _____Há quanto tempo? _____
6) É ex-fumante? Sim Não. Há quanto tempo parou de fumar? _____
7) Utiliza algum outro tipo de fumo? Sim Não. Qual? Cachimbo Charuto Palheiro _____

(MULHERES)

8) Qual era a sua idade quando veio a primeira menstruação? 9 10 11 12 13 14 15 16 17 ___ anos. NS
9) Você menstrua 8 (oito) ou mais vezes por ano? Sim Não Minha menstruação é irregular NS
10) Com que idade você parou de menstruar? 41 42 43 44 45 46 47 48 49 50 51 52 ___ anos. NS
11) Faz terapia de reposição hormonal? Sim Não. Já fez? Sim Não. Se sim, quando? _____
e por quanto tempo? _____ NS
12) Você tem ou teve problemas de aumento de pelos no corpo (face, abdômen, tronco, pernas, costas) antes dos 45 anos de idade? Sim Não NS

ANEXO G – MODELO DE EXAME DE SANGUE

PROANÁLISE
CONFIANÇA PARA A VIDA TODA

Rua Voluntários da Pátria, 1973
Telefone:55-3231-2322
CEP: 97590000 Rosário do Sul - RS
CNPJ: 91992206000109 CNES: 2247070 Email:proanalise@rosulonline.com.br

Nome: [redacted]
Médico: Sem requisição médica
Convênio:LEARRS
Local de Atendimento: Matriz (coleta área rural)

Requisição: **10992120**
Data: 29/08/2015 11:40
Emissão: 03/09/2015 10:53

Exames:		**Valores de Referência**
HEMOGRAMA		
Material: **Sangue/EDTA** Data da Coleta: 29/08/2015 11:39 Método: Citometria de fluxo fluorescente		
ERITROGRAMA		
Eritrócitos	4,430 milhões/mm³	3.9 a 5.3 milhões/mm³
Hemoglobina	12,8 g/dl	11.0 a 16.0 g/dl
Hematócrito	40,2 %	35 a 47 %
VCM	90,74 fL	80 a 98 fL
HCM	28,89 pg	27 a 31 pg
CHCM	31,84 %	32 a 36 %
RDW	13,3 %	12 a 15 %
LEUCOGRAMA		
Leucometria	8900 / mm³	3600 a 11000/mm³
Neutrófilos	71 % 6319 / mm³	1075 a 7300/mm³
Metamielócitos	0 % 0 / mm³	0 a 100/mm³
Bastonetes	1 % 89 / mm³	43 a 1000/mm³
Segmentados	70 % 6230 / mm³	1032 a 6200/mm³
Eosinófilos	2 % 178 / mm³	0 a 700/mm³
Basófilos	1 % 89 / mm³	0 a 200/mm³
Linfócitos	19 % 1691 / mm³	860 a 5200/mm³
Linfócitos atípicos	0 % 0 / mm³	0 a 0/mm³
Monócitos	7 % 623 / mm³	100 a 1500/mm³
Plasmócitos	0 % 0 / mm³	
Células jovens	0 % 0 / mm³	
CONTAGEM DE PLAQUETAS		
Material: **Sangue/EDTA** Data da Coleta: 29/08/2015 11:39 Método: Citometria de fluxo fluorescente		
Resultado	178 mil/mm³	V. Ref.: 140 a 400 mil/mm³ A contagem eletrônica é complementada por microscopia.
CREATININA		
Material: **Soro** Data da Coleta: 29/08/2015 11:39 Método: Cinética Colorimétrico		
Resultado	0,9 mg/dl	V. Ref.: 0.5 a 1.3 mg/dl

Sérgio Mesquita Dantas
CRF-RS 2532

PROANÁLISE
CONFIANÇA PARA A VIDA TODA

Rua Voluntários da Pátria, 1973
Telefone:55-3231-2322
CEP: 97590000 Rosário do Sul - RS
CNPJ: 91992206000109 CNES: 2247070 Email:proanalise@rosulonline.com.br

Nome: [redacted]
Médico: Sem requisição médica
Convênio:LEARRS
Local de Atendimento: Matriz (coleta área rural)

Requisição: **10992120**
Data: 29/08/2015 11:40
Emissão: 03/09/2015 10:53

Exames: **Valores de Referência**

HEMOGLOBINA GLICADA

Material: **Sangue total** Data da Coleta: 29/08/2015 11:39
Método: Imunoturbidimetria

Resultado: Hemoglobina glicada A 5,6 %

VALORES DE REFERENCIA: 4 A 6%
DIABETES MELLITUS: DIAGNOSTICO - IGUAL OU MAIOR QUE 6,5%
BOM CONTROLE - MENOR QUE 7%

Exame realizado em laboratório de apoio de referência.
Laudo original encontra-se arquivado no Laboratório Proanálise.

PROTEÍNA C REATIVA QUANTITATIVA

Material: **Sangue** Data da Coleta: 29/08/2015 11:39
Método: TURBIDIMETRIA

Resultado 3,50 mg/L

VALORES DE REFERENCIA: PARA RISCO CARDIOVASCULAR:
RISCO ALTO : SUPERIOR A 3,00 mg/L
RISCO MEDIO: DE 1,00 A 3,00 mg/L
RISCO BAIXO: INFERIOR A 1,00 mg/L
PARA DOENCAS INFLAMATORIAS NA FASE AGUDA:
NEGATIVO: INFERIOR A 5,00 mg/L

Exame realizado em laboratório de apoio de referência.
Laudo original encontra-se arquivado no Laboratório Proanálise.

Sérgio Mesquita Dantas
CRF-RS 2532

ANEXO H – NORMAS PARA PUBLICAÇÃO NO PERIÓDICO JOURNAL OF CLINICAL PERIODONTOLOGY

Author Guidelines

Content of Author Guidelines: 1. General, 2. Ethical Guidelines, 3. Manuscript Submission Procedure, 4. Manuscript Types Accepted, 5. Manuscript Format and Structure, 6. After Acceptance

Relevant Document: Sample Manuscript

Useful Websites: Submission Site, Articles published in *Journal of Clinical Periodontology*, Author Services, Wiley-Blackwell's Ethical Guidelines, Guidelines for Figures

The journal to which you are submitting your manuscript employs a plagiarism detection system. By submitting your manuscript to this journal you accept that your manuscript may be screened for plagiarism against previously published works.

1. GENERAL

Journal of Clinical Periodontology publishes original contributions of high scientific merit in the fields of periodontology and implant dentistry. Its scope encompasses the physiology and pathology of the periodontium, the tissue integration of dental implants, the biology and the modulation of periodontal and alveolar bone healing and regeneration, diagnosis, epidemiology, prevention and therapy of periodontal disease, the clinical aspects of tooth replacement with dental implants, and the comprehensive rehabilitation of the periodontal patient. Review articles by experts on new developments in basic and applied periodontal science and associated dental disciplines, advances in periodontal or implant techniques and procedures, and case reports which illustrate important new information are also welcome.

Please read the instructions below carefully for details on the submission of manuscripts, the journal's requirements and standards as well as information concerning the procedure after a manuscript has been accepted for publication in Journal of Clinical Periodontology. Authors are encouraged to visit Wiley-Blackwell's Author Services for further information on the preparation and submission of articles and figures.

2. ETHICAL GUIDELINES

Journal of Clinical Periodontology adheres to the below ethical guidelines for publication and research.

2.1. Authorship and Acknowledgements

Authors submitting a paper do so on the understanding that the manuscript have been read and approved by all authors and that all authors agree to the submission of the manuscript to the Journal.

Journal of Clinical Periodontology adheres to the definition of authorship set up by The International Committee of Medical Journal Editors (ICMJE). According to the ICMJE authorship criteria should be based on 1) substantial contributions to conception and design of, or acquisition of data or analysis and interpretation of data, 2) drafting the article or revising it critically for important intellectual content and 3) final approval of the version to be published. Authors should meet conditions 1, 2 and 3.

It is a requirement that all authors have been accredited as appropriate upon submission of the manuscript. Contributors who do not qualify as authors should be mentioned under Acknowledgements.

Please note that it is a requirement to include email addresses for all co-authors at submission. If any of the email-addresses supplied are incorrect the corresponding author will be contacted by the journal administrator.

Acknowledgements: Under acknowledgements please specify contributors to the article other than the authors accredited.

2.2. Ethical Approvals

Experimentation involving human subjects will only be published if such research has been conducted in full accordance with ethical principles, including the World Medical Association Declaration of Helsinki (version 2008) and the additional requirements, if any, of the country where the research has been carried out. Manuscripts must be accompanied by a statement that the experiments were undertaken with the understanding and written consent of each subject and according to the above-mentioned principles. A statement regarding the fact that the study has been independently reviewed and approved by an ethical board should also be included.

When experimental animals are used the methods section must clearly indicate that adequate measures were taken to minimize pain or discomfort. Experiments should be carried out in accordance with the Guidelines laid down by the National Institute of Health (NIH) in the USA regarding the care and use of animals for experimental procedures or with the European Communities Council Directive of 24 November 1986 (86/609/EEC) and in accordance with local laws and regulations.

All studies using human or animal subjects should include an explicit statement in the Material and Methods section identifying the review and ethics committee approval for each study, if applicable. Editors reserve the right to reject papers if there is doubt as to whether appropriate procedures have been used.

2.3 Clinical Trials

Clinical trials should be reported using the CONSORT guidelines available at www.consort-statement.org. A CONSORT checklist should also be included in the submission material.

Journal of Clinical Periodontology encourages authors submitting manuscripts reporting from a clinical trial to register the trials in any of the following free, public clinical trials registries: www.clinicaltrials.gov, http://clinicaltrials.ifpma.org/clinicaltrials/, http://isrctn.org/. The clinical trial registration number and name of the trial register will then be published with the paper.

2.4 DNA Sequences and Crystallographic Structure Determinations

Papers reporting protein or DNA sequences and crystallographic structure determinations will not be accepted without a GenBank or Brookhaven accession number, respectively. Other supporting data sets must be made available on the publication date from the authors directly.

2.5 Conflict of Interest and Source of Funding

Journal of Clinical Periodontology requires that all authors (both the corresponding author and co-authors) disclose any potential sources of conflict of interest. Any interest or relationship, financial or otherwise that might be perceived as influencing an author’s objectivity is considered a potential source of conflict of interest. These must be disclosed when directly relevant or indirectly related to the work that the

authors describe in their manuscript. Potential sources of conflict of interest include but are not limited to patent or stock ownership, membership of a company board of directors, membership of an advisory board or committee for a company, and consultancy for or receipt of speaker's fees from a company. If authors are unsure whether a past or present affiliation or relationship should be disclosed in the manuscript, please contact the editorial office at cpeedoffice@wiley.com. The existence of a conflict of interest does not preclude publication in this journal.

The above policies are in accordance with the Uniform Requirements for Manuscripts Submitted to Biomedical Journals produced by the International Committee of Medical Journal Editors (http://www.icmje.org/). It is the responsibility of the corresponding author to have all authors of a manuscript fill out a conflict of interest disclosure form, and to upload all forms together with the manuscript on submission. The disclosure statement should be included under Acknowledgements. Please find the form below:

Conflict of Interest Disclosure Form

2.6 Appeal of Decision

Under exception circumstances, authors may appeal the editorial decision. Authors who wish to appeal the decision on their submitted paper may do so by e-mailing the editorial office at cpeedoffice@wiley.com with a detailed explanation for why they find reasons to appeal the decision.

Please note that all revisions and resubmissions of papers should also include a separate rebuttal and a tracked changes document to assist in peer review.

2.7 Permissions

If all or parts of previously published illustrations are used, permission must be obtained from the copyright holder concerned. It is the author's responsibility to obtain these in writing and provide copies to the Publishers.

3. MANUSCRIPT SUBMISSION PROCEDURE

Manuscripts should be submitted electronically via the online submission site http://mc.manuscriptcentral.com/jcpe. The use of an online submission and peer review site enables immediate distribution of manuscripts and consequentially

speeds up the review process. It also allows authors to track the status of their own manuscripts. Complete instructions for submitting a paper is available on the submission site. Further assistance can be obtained from the Senior Editorial Office Assistant, Kim Harris, at cpeedoffice@wiley.com.

Please note that all revisions and resubmissions of papers should also include a separate rebuttal and a tracked changes document to assist in peer review.

3.1. Manuscript Files Accepted

Main manuscripts should be uploaded as Word (.doc) or Rich Text Format (.rft) files (not write-protected). The text file must contain the entire manuscript including title page, abstract, clinical reference, main text, references, acknowledgement, statement of source of funding and any potential conflict of interest, tables, and figure legends, but no embedded figures. In the text, please reference any figures as for instance 'Figure 1', 'Figure 2' etc. to match the tag name you choose for the individual figure files uploaded.

Figure files should be uploaded separately to the main text. GIF, JPEG, PICT or Bitmap files are acceptable for submission, but only high-resolution TIF or EPS files are suitable for printing.

Manuscripts should be formatted as described in the Author Guidelines below.

Please ensure that ALL items (figures and tables) are cited in the main text.

3.2. Blinded Review

All manuscripts submitted to Journal of Clinical Periodontology will be reviewed by two or more experts in the field. Papers that do not conform to the general aims and scope of the journal will, however, be returned immediately without review. Journal of Clinical Periodontology uses single blinded review. The names of the reviewers will thus not be disclosed to the author submitting a paper.

3.3. Suggest a Reviewer

Journal of Clinical Periodontology attempts to keep the review process as short as possible to enable rapid publication of new scientific data. In order to facilitate this process, please suggest the name and current email address of one potential

international reviewer whom you consider capable of reviewing your manuscript. In addition to your choice the editor will choose one or two reviewers as well.

3.4. Suspension of Submission Mid-way in the Submission Process

You may suspend a submission at any phase before clicking the 'Submit' button and save it to submit later. The manuscript can then be located under 'Unsubmitted Manuscripts' and you can click on 'Continue Submission' to continue your submission when you choose to.

3.5. E-mail Confirmation of Submission

After submission you will receive an e-mail to confirm receipt of your manuscript. If you do not receive the confirmation e-mail after 24 hours, please check your e-mail address carefully in the system. If the e-mail address is correct please contact your IT department. The error may be caused by some sort of spam filtering on your e-mail server. Also, the e-mails should be received if the IT department adds our e-mail server (uranus.scholarone.com) to their whitelist.

3.6 Resubmissions

If your manuscript was given the decision of reject and resubmit, you might choose to submit an amended version of your manuscript. This should be submitted as a new submission following the guidelines above under 3.2. In addition you should upload comments to the previous review as “supplementary files for review”.

4. MANUSCRIPT TYPES ACCEPTED

Journal of Clinical Periodontology publishes original research articles, reviews, clinical innovation reports and case reports. The latter will be published only if they provide new fundamental knowledge and if they use language understandable to the clinician. It is expected that any manuscript submitted represents unpublished original research.

Original Research Articles must describe significant and original experimental observations and provide sufficient detail so that the observations can be critically evaluated and, if necessary, repeated. Original articles will be published under the heading of clinical periodontology, implant dentistry or pre-clinical sciences and must conform to the highest international standards in the field.

Clinical Innovation Reports are suited to describe significant improvements in clinical practice such as the report of a novel surgical technique, a breakthrough in technology or practical approaches to recognized clinical challenges. They should conform to the highest scientific and clinical practice standards.

Case Reports illustrating unusual and clinically relevant observations are acceptable but their merit needs to provide high priority for publication in the Journal. On rare occasions, completed cases displaying non-obvious solutions to significant clinical challenges will be considered.

Reviews are selected for their broad general interest; all are refereed by experts in the field who are asked to comment on issues such as timeliness, general interest and balanced treatment of controversies, as well as on scientific accuracy. Reviews should take a broad view of the field rather than merely summarizing the authors´ own previous work, so extensive citation of the authors´ own publications is discouraged. The use of state-of-the-art evidence-based systematic approaches is expected. Reviews are frequently commissioned by the editors and, as such, authors are encouraged to submit a proposal to the Journal. Review proposals should include a full-page summary of the proposed contents with key references.

5. MANUSCRIPT FORMAT AND STRUCTURE

5.1. Format

Language: The language of publication is English. Authors for whom English is a second language may choose to have their manuscript professionally edited before submission to improve the English. It is preferred that manuscript is professionally edited. Please refer to English Language Editing Services offered by Wiley at http://wileyeditingservices.com/en/.

Japanese authors can also find a list of local English improvement services at http://www.wiley.co.jp/journals/editcontribute.html. All services are paid for and arranged by the author, and use of one of these services does not guarantee acceptance or preference for publication.

Abbreviations, Symbols and Nomenclature: Journal of Clinical Periodontology adheres to the conventions outlined in Units, Symbols and Abbreviations: A Guide for Medical and Scientific Editors and Authors. Abbreviations should be kept to a

minimum, particularly those that are not standard. Non-standard abbreviations must be used three or more times and written out completely in the text when first used.

5.2. Structure

All articles submitted to Journal of Clinical Periodontology should include:

Title Page

Conflict of Interest and Source of Funding

Clinical Relevance

Abstract

Introduction

Materials and Methods

Results

Discussion

References

Tables (where appropriate)

Figure Legends (where appropriate)

Figures (where appropriate and uploaded as separate files)

All manuscripts should emphasize clarity and brevity. Authors should pay special attention to the presentation of their findings so that they may be communicated clearly. Technical jargon should be avoided as much as possible and be clearly explained where its use is unavoidable.

Title Page: The title must be concise and contain no more than 100 characters including spaces. The title page should include a running title of no more than 40 characters; 5-10 key words, complete names of institutions for each author, and the name, address, telephone number, fax number and e-mail address for the corresponding author.

Conflict of Interest and Source of Funding: Authors are required to disclose all sources of institutional, private and corporate financial support for their study.

Suppliers of materials (for free or at a discount from current rates) should be named in the source of funding and their location (town, state/county, country) included. Other suppliers will be identified in the text. If no funding has been available other than that of the author's institution, this should be specified upon submission. Authors are also required to disclose any potential conflict of interest. These include financial interests (for example patent, ownership, stock ownership, consultancies, speaker's fee,) or provision of study materials by their manufacturer for free or at a discount from current rates. Author's conflict of interest (or information specifying the absence of conflicts of interest) and the sources of funding for the research will be published under a separate heading entitled "Conflict of Interest and Source of Funding Statement".

See Editor-in-Chief Maurizio Tonetti's Editorial on Conflict of Interest and Source of Funding and www.icmje.org/#conflicts for generally accepted definitions.

Abstract: is limited to 200 words in length and should not contain abbreviations or references. The abstract should be organized according to the content of the paper.

For Original Research Articles the abstract should be organized with aim, materials and methods, results and conclusions.

For clinical trials, it is encouraged that the abstract finish with the clinical trial registration number on a free public database such as clinicaltrials.gov.

Clinical Relevance: This section is aimed at giving clinicians a reading light to put the present research in perspective. It should be no more than 100 words and should not be a repetition of the abstract. It should provide a clear and concise explanation of the rationale for the study, of what was known before and of how the present results advance knowledge of this field. If appropriate, it may also contain suggestions for clinical practice.

It should be structured with the following headings: scientific rationale for study, principal findings, and practical implications.

Authors should pay particular attention to this text as it will be published in a highlighted box within their manuscript; ideally, reading this section should leave clinicians wishing to learn more about the topic and encourage them to read the full article.

Acknowledgements: Under acknowledgements please specify contributors to the article other than the authors accredited.

5.3. Original Research Articles

These must describe significant and original experimental observations and provide sufficient detail so that the observations can be critically evaluated and, if necessary, repeated. Original articles will be published under the heading of clinical periodontology, implant dentistry or pre-clinical sciences and must conform to the highest international standards in the field.

The word limit for original research articles is 3500 words, and up to 7 items (figures and tables) may be included. Additional items can be included as supplementary files online (please see 5.9 below).

Main Text of Original Research Articles should be organized with

Introduction,

Materials and Methods,

Results and Discussion.

References (Harvard, see section 5.7)

The background and hypotheses underlying the study, as well as its main conclusions, should be clearly explained. Please see Sample Manuscript.

Introduction: should be focused, outlining the historical or logical origins of the study and not summarize the results; exhaustive literature reviews are not appropriate. It should close with the explicit statement of the specific aims of the investigation.

Material and Methods: must contain sufficient detail such that, in combination with the references cited, all clinical trials and experiments reported can be fully reproduced. As a condition of publication, authors are required to make materials and methods used freely available to academic researchers for their own use. This includes antibodies and the constructs used to make transgenic animals, although not the animals themselves.

(a) Clinical trials should be reported using the CONSORT guidelines available at www.consort-statement.org. A CONSORT checklist should also be included in the

submission material. If your study is a randomized clinical trial, you will need to fill in all sections of the CONSORT Checklist. If your study is not a randomized trial, not all sections of the checklist might apply to your manuscript, in which case you simply fill in N/A.

Journal of Clinical Periodontology encourages authors submitting manuscripts reporting from a clinical trial to register the trials in any of the following free, public clinical trials registries: www.clinicaltrials.gov, http://clinicaltrials.ifpma.org/clinicaltrials/. The clinical trial registration number and name of the trial register will then be published with the paper.

(b) Statistical Analysis: As papers frequently provide insufficient detail as to the performed statistical analyses, please describe with adequate detail. For clinical trials intention to treat analyses are encouraged (the reasons for choosing other types of analysis should be highlighted in the submission letter and clarified in the manuscript).

(c) DNA Sequences and Crystallographic Structure Determinations: Papers reporting protein or DNA sequences and crystallographic structure determinations will not be accepted without a Genbank or Brookhaven accession number, respectively. Other supporting data sets must be made available on the publication date from the authors directly.

(d) Experimental Subjects: Experimentation involving human subjects will only be published if such research has been conducted in full accordance with ethical principles, including the World Medical Association Declaration of Helsinki (version 2008) and the additional requirements, if any, of the country where the research has been carried out. Manuscripts must be accompanied by a statement that the experiments were undertaken with the understanding and written consent of each subject and according to the above mentioned principles. A statement regarding the fact that the study has been independently reviewed and approved by an ethical board should also be included.

When experimental animals are used the methods section must clearly indicate that adequate measures were taken to minimize pain or discomfort. Experiments should be carried out in accordance with the Guidelines laid down by the National Institute of Health (NIH) in the USA regarding the care and use of animals for experimental

procedures or with the European Communities Council Directive of 24 November 1986 (86/609/EEC) and in accordance with local laws and regulations.

All studies using human or animal subjects should include an explicit statement in the Material and Methods section identifying the review and ethics committee approval for each study, if applicable. Editors reserve the right to reject papers if there is doubt as to whether appropriate procedures have been used.

Results: should present the observations with minimal reference to earlier literature or to possible interpretations.

Discussion: may usefully start with a brief summary of the major findings, but repetition of parts of the abstract or of the results section should be avoided. The discussion section should end with a brief conclusion and a comment on the potential clinical relevance of the findings. Statements and interpretation of the data should be appropriately supported by original references.

The discussion may usefully be structured with the following points in mind (modified from the proposal by Richard Horton (2002), The Hidden Research Paper, The Journal of the American Medical Association, 287, 2775-2778). Not all points will apply to all studies and its use is optional, but we believe it will improve the discussion section to keep these points in mind.

Summary of key finding

* Primary outcome measure(s)

* Secondary outcome measure(s)

* Results as they relate to a prior hypothesis

Strengths and Limitations of the Study

* Study Question

* Study Design

* Data Collection

* Analysis

* Interpretation

* Possible effects of bias on outcomes

Interpretation and Implications in the Context of the Totality of Evidence

* Is there a systematic review to refer to?

* If not, could one be reasonably done here and now?

* What this study adds to the available evidence

* Effects on patient care and health policy

* Possible mechanisms

Controversies Raised by This Study Future Research Directions

* For this particular research collaboration

* Underlying mechanisms

* Clinical research

5.4. Clinical Innovation Reports

These are suited to describe significant improvements in clinical practice such as the report of a novel surgical technique, a breakthrough in technology or practical approaches to recognized clinical challenges. They should conform to the highest scientific and clinical practice standards.

The word limit for clinical innovation reports is 3000 words, and up to 12 items (figures and tables) may be included. Additional items can be included as supplementary files online (please see 5.9 below).

The main text of Clinical Innovation Reports should be organized with

Introduction,

Clinical Innovation Report,

Discussion and Conclusion

References (see section 5.7)

5.5. Case Reports

Case reports illustrating unusual and clinically relevant observations are acceptable but their merit needs to provide high priority for publication in the Journal. On rare occasions, completed cases displaying non-obvious solutions to significant clinical challenges will be considered.

The main text of Case Reports should be organized with

Introduction,

Case report,

Discussion and Conclusion

References (see section 5.7)

5.6. Reviews

Reviews are selected for their broad general interest; all are refereed by experts in the field who are asked to comment on issues such as timeliness, general interest and balanced treatment of controversies, as well as on scientific accuracy. Reviews should take a broad view of the field rather than merely summarizing the authors´ own previous work, so extensive citation of the authors´ own publications is discouraged. The use of state-of-the-art evidence-based systematic approaches is expected. Reviews are frequently commissioned by the editors and, as such, authors are encouraged to submit a proposal to the Journal. Review proposals should include a full-page summary of the proposed contents with key references.

The word limit for reviews is 4000 words.

The main text of Reviews should be organized with

Introduction,

Review of Current Literature,

Discussion and Conclusion

References (see section 5.7)

5.7. References

It is the policy of the Journal to encourage reference to the original papers rather than to literature reviews. Authors should therefore keep citations of reviews to the absolute minimum.

References should be prepared according to the Publication Manual of the American Psychological Association (6th edition). This means in text citations should follow the author-date method whereby the author's last name and the year of publication for the source should appear in the text, for example, (Jones, 1998). The complete reference list should appear alphabetically by name at the end of the paper.

A sample of the most common entries in reference lists appears below. Please note that a DOI should be provided for all references where available. For more information about APA referencing style, please refer to the APA FAQ. Please note that for journal articles, issue numbers are not included unless each issue in the volume begins with page one.

Journal article

Beers, S. R. , & De Bellis, M. D. (2002). Neuropsychological function in children with maltreatment-related posttraumatic stress disorder. The American Journal of Psychiatry, 159, 483–486. doi:10.1176/appi.ajp.159.3.483

Book

Bradley-Johnson, S. (1994). Psychoeducational assessment of students who are visually impaired or blind: Infancy through high school (2nd ed.). Austin, TX: Pro-ed.

Chapter in an Edited Book

Borstrøm, I., & Elbro, C. (1997). Prevention of dyslexia in kindergarten: Effects of phoneme awareness training with children of dyslexic parents. In C. Hulme & M. Snowling (Eds.), Dyslexia: Biology, cognition and intervention (pp. 235–253). London: Whurr.

Internet Document

Norton, R. (2006, November 4). How to train a cat to operate a light switch [Video file]. Retrieved from http://www.youtube.com/watch?v=Vja83KLQXZs

Please note that all unpublished papers (submitted or in press) included in the reference list should be provided in a digital version at submission. The unpublished paper should be uploaded as a supplementary file for review.

5.8. Tables, Figures and Figure Legends

Tables: should be double-spaced with no vertical rulings, with a single bold ruling beneath the column titles. Units of measurements must be included in the column title.

Figures: All figures should be planned to fit within either 1 column width (8.0 cm), 1.5 column widths (13.0 cm) or 2 column widths (17.0 cm) and must be suitable for photocopy reproduction from the printed version of the manuscript. Lettering on figures should be in a clear, sans serif typeface (e.g. Helvetica); if possible, the same typeface should be used for all figures in a paper. After reduction for publication, upper-case text and numbers should be at least 1.5-2.0 mm high (10 point Helvetica). After reduction symbols should be at least 2.0-3.0 mm high (10 point). All half-tone photographs should be submitted at final reproduction size. In general, multi-part figures should be arranged as they would appear in the final version. Each copy should be marked with the figure number and the corresponding author's name. Reduction to the scale that will be used on the page is not necessary, but any special requirements (such as the separation distance of stereo pairs) should be clearly specified.

Unnecessary figures and parts (panels) of figures should be avoided: data presented in small tables or histograms, for instance, can generally be stated briefly in the text instead. Figures should not contain more than one panel unless the parts are logically connected; each panel of a multipart figure should be sized so that the whole figure can be reduced by the same amount and reproduced on the printed page at the smallest size at which essential details are visible.

Figures should be on a white background, and should avoid excessive boxing, unnecessary color, shading and/or decorative effects (e.g. 3-dimensional skyscraper histograms) and highly pixelated computer drawings. The vertical axis of histograms should not be truncated to exaggerate small differences. The line spacing should be wide enough to remain clear on reduction to the minimum acceptable printed size. Figures divided into parts should be labelled with a lower-case, boldface, roman

letter, a, b, and so on, in the same type size as used elsewhere in the figure. Lettering in figures should be in lower-case type, with the first letter capitalized. Units should have a single space between the number and the unit and follow SI nomenclature or the nomenclature common to a particular field. Thousands should be separated by thin spaces (1 000). Unusual units or abbreviations should be spelled out in full or defined in the legend. Scale bars should be used rather than magnification factors, with the length of the bar defined in the legend rather than on the bar itself. In general, visual cues (on the figures themselves) are preferred to verbal explanations in the legend (e.g. broken line, open red triangles etc.)

Preparation of Electronic Figures for Publication

Although low quality images are adequate for review purposes, print publication requires high quality images to prevent the final product being blurred or fuzzy. Submit EPS (lineart) or TIFF (halftone/photographs) files only. MS PowerPoint and Word Graphics are unsuitable for printed pictures. Do not use pixel-oriented programmes. Scans (TIFF only) should have a resolution of 300 dpi (halftone) or 600 to 1200 dpi (line drawings) in relation to the reproduction size (see below). EPS files should be saved with fonts embedded (and with a TIFF preview if possible). For scanned images, the scanning resolution (at final image size) should be as follows to ensure good reproduction: lineart: >600 dpi; half-tones (including gel photographs): >300 dpi; figures containing both halftone and line images: >600 dpi.

Detailed information on our digital illustration standards can be found at http://authorservices.wiley.com/bauthor/illustration.asp.

Check your electronic artwork before submitting it: http://authorservices.wiley.com/bauthor/eachecklist.asp.

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Permissions: If all or parts of previously published illustrations are used, permission must be obtained from the copyright holder concerned. It is the author's responsibility to obtain these in writing and provide copies to the Publishers.

Figure Legends: should be a separate section of the manuscript and should begin with a brief title for the whole figure and continue with a short description of each panel and the symbols used; they should not contain any details of methods.

5.9. Supplementary Material

Supplementary material, such as data sets or additional figures or tables that will not be published in the print edition of the Journal but which will be viewable in the online edition, can be uploaded as 'Supporting information for review and online publication only'.

Please see http://authorservices.wiley.com/bauthor/suppmat.asp for further information on the submission of Supplementary Materials.

6. AFTER ACCEPTANCE

Upon acceptance of a paper for publication, the manuscript will be forwarded to the Production Editor who is responsible for the production of the journal.

6.1 Proof Corrections

The corresponding author will receive an email alert containing a link to a web site. A working email address must therefore be provided for the corresponding author. The proof can be downloaded as a PDF (portable document format) file from this site. Acrobat Reader will be required in order to read this file. This software can be downloaded (free of charge) from the following Web site: www.adobe.com/products/acrobat/readstep2.html . This will enable the file to be opened, read on screen, and printed out in order for any corrections to be added. Further instructions will be sent with the proof. Hard copy proofs will be posted if no e-mail address is available; in your absence, please arrange for a colleague to access your e-mail to retrieve the proofs. Proofs must be returned to the Production Editor within three days of receipt. As changes to proofs are costly, we ask that you only correct typesetting errors. Excessive changes made by the author in the proofs, excluding typesetting errors, will be charged separately. Other than in exceptional circumstances, all illustrations are retained by the publisher. Please note that the author is responsible for all statements made in his work, including changes made by the copy editor.

6.2 Early View (Publication Prior to Print)

The Journal of Clinical Periodontology is covered by Wiley-Blackwell's Early View service. Early View articles are complete full-text articles published online in advance of their publication in a printed issue. Early View articles are complete and final. They have been fully reviewed, revised and edited for publication, and the authors' final corrections have been incorporated. Because they are in final form, no changes can be made after online publication. The nature of Early View articles means that they do not yet have volume, issue or page numbers, so Early View articles cannot be cited in the traditional way. They are therefore given a Digital Object Identifier (DOI), which allows the article to be cited and tracked before it is allocated to an issue. After print publication, the DOI remains valid and can continue to be used to cite and access the article.

6.3 Production Tracking

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Accepted articles will be indexed by PubMed; therefore the submitting author must carefully check the names and affiliations of all authors provided in the cover page of

the manuscript, as it will not be possible to alter these once a paper is made available online in Accepted Article format.

6.5 Video Abstracts

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7. OnlineOpen

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