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Maternal periodontal disease and preterm birth: a case-control study

Doença periodontal materna e parto pré-termo: um estudo de caso-controle

Enfermedad periodontal materna y parto pretérmino: un estudio de caso-control

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ABSTRACT

OBJECTIVES: Periodontal disease can be a source of subclinical and persistent infection that may induce systemic inflammatory responses that increase the risk of preterm birth. The goal of this study was to establish whether periodontal disease is a risk factor for preterm birth, and to evaluate the association of this risk with gestational age. METHODS: This case-control study included postpartum women with singleton gestations; 53 women who gave birth before the 37th week (cases) were compared to 79 women with term deliveries (controls). Full-mouth clinical periodontal parameters were determined within 72 h after delivery. RESULTS: The prevalence of periodontal disease was 41% (54/132). The preterm birth cases showed a significantly higher proportion of bleeding than the term birth controls (86.7% versus 68%, p = 0.026) and a greater maximum periodontal pocket depth on probing (3.9 ± 1.6 mm versus 3.2 ± 1 mm, p = 0.043). No differences in previous periodontal disease, attachment loss, or the percentage of periodontal disease were detected between the study groups. Logistic regression revealed that preterm birth was associated with the bleeding index (adjusted odds ratio 4.19; 95% CI: 1.28 – 13.69, p = 0.018) and with periodontal pocket depth (5.14; 95% CI: 1.50 – 17.6, p = 0.009). The risk of preterm birth associated with periodontal disease decreased as gestational age increased. In addition, the population attributable risk was 16% overall; this risk increased as gestational age decreased. CONCLUSION: In this study population, only the bleeding index and periodontal pocket depth were risk factors for preterm birth; increased risk was associated with greater prematurity.

Keywords: Periodontal Diseases; Premature Birth; Pregnancy; Risk Factors.

INTRODUCTION

Preterm birth (PB) is a primary public health challenge in both developed and underdeveloped nations. PB causes between 40% and 60% of all perinatal deaths and is linked to over 50% of all neurological handicaps at later ages[29,16,18].

Despite improvements in obstetric care, especially in developed countries, rates of preterm birth have not decreased during the last 40 years and, in fact, have increased slightly in most countries[8].

The incidence of PB is around 11% in the United States and between 5% and 7% in Europe[7]. In Argentina, official data are unavailable, but local data, such as those from the *Hospital Materno-Infantil Ramón Sardá* (HMIRS), provide information on about two-thirds of the population of Buenos Aires as well as that of surrounding suburbs, where people have a low socioeconomic status. This data shows a rate of preterm birth of around 9%[14].

There are several different subgroups of preterm delivery (i.e., delivery might be due to the premature rupture of membranes, indicated for medical reasons, or of unknown etiology)[15], and evidence suggests there is a multifactorial etiology for preterm delivery[22,25]. Prevention strategies should not only focus on preventing the initiation of preterm labor or on inhibiting it once it has started, but also on addressing the issues underlying the risk factors.

The etiological role of maternal infection, either in the genital tract or elsewhere, on preterm delivery remains unclear; however, preterm delivery may be an indirect consequence of the production of increased levels of inflammatory mediators (such as cytokines, mainly interleukin 1 beta and interleukin 6, prostaglandin E_2, and tumor necrosis factor alpha) that shorten gestation[3,15].

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The hypothesis that infection remote from the fetal placental unit may influence PB has led to an increased awareness of the potential role of chronic bacterial infections elsewhere in the body. Periodontal disease (PD) is one of the most common chronic infectious diseases in humans, with a reported prevalence varying between 10% and 60% in adults, depending on diagnostic criteria[30]. This type of infection is caused primarily by Gram-negative, anaerobic, and microaerophilic bacteria that colonize the subgingival area and produce significant amounts of pro-inflammatory cytokines that may have systemic effects on the host.

PD may therefore influence PB through an indirect mechanism involving inflammatory mediators or through a direct bacterial assault on the amnion[12,13]. To date, only one study addressing this topic has been carried out among pregnant women in Argentina[4].

The aim of the present study is to establish whether periodontal disease is associated with preterm birth in an Argentinean case-control population in the largest maternity hospital in Buenos Aires.

MATERIAL AND METHODS

This study was conducted at the HMIRS between May 2007 and April 2008. Women with singleton gestations were recruited from the delivery room or within three days postpartum and enrolled in a case-control study after giving written informed consent. HMIRS is a tertiary referral and teaching hospital associated with the *Universidad de Buenos Aires* School of Medicine and serves a large population of patients with low socioeconomic status.

The hospital birth register was examined each day by the study team members to identify all preterm *cases*, defined as those mothers who delivered an infant born alive before 37 weeks gestation, as well as term *controls*, those infants born between 37 and 41 weeks. Gestational age in completed weeks was estimated from the first day of the last menstrual period and was usually confirmed with ultrasound at the beginning of the second trimester.

Exclusion criteria included twins, the presence of congenital anomalies, and mothers who required antibiotics up to seven days prior to delivery.

A neonatologist administered a structured questionnaire before the dental examination to ascertain risk factors for preterm delivery and periodontal disease[28].

Maternity hospital records were reviewed by the neonatologist to recover past obstetric and clinical details for each mother. Where feasible, information on the questionnaire was verified with the maternity records. These included histories of infection, medications, prenatal care, and alcohol and tobacco use.

The following *maternal* variables were included: age, education, parity, previous stillbirth, low birth weight, preterm infant, and previous periodontal disease ("chronic" periodontitis was defined as the progression of the disease over time without treatment)[27].

Variables related to the present pregnancy included prenatal care, gestational weight gain, cigarette smoking, anemia, diabetes, hypertension, intrauterine growth restriction, premature rupture of membranes, and endometritis.

The following *infant* characteristics were recorded: sex, gestational age (GA in weeks), birth weight, small for gestational age (SGA, or a birth weight below the tenth percentile for local standards)[24], Apgar score at 5 min, and neonatal admission to the intensive care unit.

One dentist (author MP) was trained and calibrated prior to the beginning of the study and carried out all periodontal examinations in a research dental clinic within three days postpartum; this dentist was blinded to case-control status. No women were excluded because of insufficient teeth (less than 20). A disposable periodontal probe (Hu-friedy PCP-UNC 15, Chicago, IL, USA) was used.

Clinical measures of periodontal parameters included level of inflammation of the periodontal tissues (using a bleeding index of 0-3), maximum periodontal pocket depth (PPD, mm), and severity according to the amount of clinical attachment loss (CAL, mm) recorded at six sites on each tooth[20]. Finally, actual PD was registered according to the Periodontal Disease Classification System of the American Academy of Periodontology[16]; this classification was based on the presence of localized or generalized chronic periodontitis (CAL > 1 mm and > 30% of sites involved).

These criteria were adopted because there is no universally accepted standard for the diagnosis of periodontal disease; the criteria helped to prevent the misclassification of patients who positively exhibited PD[15].

The primary outcome measure was preterm birth, defined by the World Health Organization (WHO) as a birth that occurs between 20 and 37 gestational weeks, or before 259 days when counting from the first day of the last menstrual period[29].

Power calculations assumed a 20% prevalence of periodontal disease in mothers between the ages of 16 and 44 years. At a ratio of one control to one case, 72 controls and 72 cases were required for the detection of an odds ratio of three with 80% power at a 5% significance level.

The study was approved by the *Maternidad Sardá* Research and Ethics Committee.

STATISTICAL ANALYSES

Measures of central trends (means or proportions, as applicable) were performed for descriptive analyses. A Student's t-test was used to compare means. A chi-square test was applied to compare proportions and risks across preterm categories with stratified analysis; a chi-square test was also used to analyze linear trends.

The bivariate risk between clinical measures of maternal periodontal disease (risk factors) and preterm birth (outcome) was calculated with crude odds ratios (OR) and 95% confidence intervals (CI). Finally, an approximation of the population attributable risk (PAR) was calculated

according to the method described by Benichou[1]. PAR describes the proportion of outcomes (i.e., cases of preterm birth) in a given population that can be attributed to exposure to the risk factors.

The risk of preterm birth when a clinical measure of maternal periodontal disease was present, as well as risks from other major risk factors for preterm birth, was estimated using multivariable logistic regression models (adjusted OR, aOR, with 95% confidence intervals).

Periodontal pocket depth and attachment loss were dichotomized (1 mm = Yes) for use in a model. Goodness of fit was assessed by the likelihood test.

All analyses were performed with Statistica 6.0 (Statsoft, Tulsa, OK) and Epidat 2.0 (PAHO/WHO and Xunta de Galicia) software. The statistical significance level was set at $p < 0.05$ (one-tailed).

RESULTS

A total of 53 cases and 79 controls were recruited into the study. The maternal and obstetric characteristics of each study group are shown in table 1. The majority of mothers were in the 20 to 34 year age group (65.1%), although cases were slightly older than controls. Most mothers had no tertiary education and were primiparous. As expected, mothers in the case group had a higher proportion of recognized risk factors for preterm birth, such as a previous stillborn, low birth weight, or preterm infant, a lower percentage of prenatal visits, and lower gestational weight gain.

Table 1 – Maternal and obstetric characteristics of study groups (HMIRS, Buenos Aires, Argentina, 2007-2008)

	Term n = 79	Preterm n = 53	*p*-value
Maternal characteristics:			
Maternal age (years)*	25.3±6.8	27.3±7.5	0.428†
19 (n, %)	17 (21.5)	8 (15)	0.486‡
35 (n, %)	10 (12.6)	11 (20)	0.315‡
Maternal education (years)*	9.8±2.8	9.3±3.6	0.338†
Previous pregnancies, n*	0.6±0.5	0.7±0.4	0.197†
Previous stillbirth, n (%)	10 (12.6)	8 (15)	0.887‡
Previous low birthweight, n (%)	2 (2.5)	6 (11.3)	0.019‡
Previous preterm, n (%)	3 (3.8)	7 (13.2)	0.023‡
Pregnancy outcomes:			
GA at booking (weeks)*	15±6	16±4	0.140†
Antenatal visits (n)*	6.5±2.4	5±1.8	< 0.001†
Gestational weight gain (kg)*	12.5±5	8.3±4	< 0.001†
Cigarette Smoking, n (%)	1 (1.2)	2 (3.7)	0.724‡
Anemia, n (%)	16 (20)	10 (19)	0.978‡
Diabetes, n (%)	1 (1.2)	1 (1.9)	0.659‡
Hypertension, n (%)	4 (5.0)	10 (18.8)	0.025‡
IUGR, n (%)	1 (1.2)	8 (15)	0.006‡
PROM, n (%)	1 (1.2)	12 (22.6)	< 0.001‡
Endometritis, n (%)	1 (1.2)	1 (1.9)	0.659‡

* Mean ± SD;
GA = gestational age; IUGR = intrauterine growth restriction; PROM = Premature rupture of membranes;
p-value for differences between the groups from †Student t test and ‡chi square test.

Those pregnancy outcomes most strongly associated with preterm birth were hypertension during pregnancy, intrauterine growth restriction, and premature rupture of membranes, all of which showed statistically significant differences when compared with those of mothers in the control group. In the bivariate analysis, we found a significant association between hypertension during pregnancy and preterm birth (OR 4.36; 95 CI: 1.16 – 17.7, $p = 0.025$).

When compared to term infants, preterm infants showed a lower gestational age, birth weight, sex ratio and mean Apgar score at 5 min; higher proportions of preterm infants were small for gestational age and required neonatal admission ($p < 0.001$, data not shown).

The prevalence of periodontal disease was common: 41% of women overall (54/132) had periodontal disease, including 47.1% of women with preterm births (95% confidence interval 34.4 to 60.3) and 36.7% of women with term births (95% CI 27 to 47). There was no evidence for an association between previous PD and the study group. Cases had a significantly higher proportion of bleeding (1 - 3) and maximum periodontal pocket depth on probing; these findings are evidence of greater inflammation of the periodontal tissues.

The study groups were compared for evidence of severe periodontal disease; i.e., the percent of PPD 4 mm or greater and percent of CAL 3 mm or greater. No significant differences were found (PPD 4 mm: 26.4% versus 27.8%, $p = 0.985$; CAL 3 mm: 24.5% versus 11.3%, $p = 0.087$, for preterm and term pregnancies, respectively).

Although the difference was not statistically significant, other indicators, such as median attachment loss and the proportion of periodontal disease, were higher in cases than in controls (Table 2).

Table 2 – Periodontal conditions in the study groups (HMIRS, Buenos Aires, Argentina, 2007-2008)

	Term n = 79	Preterm n = 53	*p*-value
Previous PD, n (%)	22 (27.8)	13 (24)	0.824†
Bleeding index (1-3) n (%)	54 (68)	46 (86.7)	0.026†
Maximum PPD (mm)*	3.2±1	3.9±1.6	0.043‡
CAL (mm)*	2.1±0.8	2.3±1.1	0.475‡
Periodontal disease n (%)	29 (36.7)	25 (47)	0.308†

* Mean ± SD;
PD = periodontal disease; PPD = periodontal pocket depth; CAL = clinical attachment loss;
p-value for differences between the groups from †chi square test and ‡Student t test.

The crude odds ratio for a woman having a preterm birth with periodontal disease was 1.50 (95% confidence interval 0.75 to 2.99, $p = 0.264$). The risk of preterm birth associated with periodontal disease reduced as gestational age increased (32 weeks GA, OR 2.90 (95% CI 1.26 – 6.64); 33-34 weeks, OR = 1.46 (0.44 – 4.81), and 35-36 weeks, OR = 0.24 (0.02 – 2.06)). This trend was not,

however, statistically significant (Chi square for trends p = 0.202). In addition, the population attributable risk was higher at a lower gestational age; it was 41% at or before 32 weeks, 14.7% at 33-34 weeks, and 25% between 35-36 weeks.

Table 3 shows the crude OR, adjusted OR, and population attributable risk of preterm birth associated with clinical measures of maternal periodontal disease. In the univariate analysis, mothers had a more than two-fold risk of having a preterm infant if they had periodontal pocket depths of 1 mm and a bleeding index 1; these findings were all statistically significant. No significant association was found between the other variables studied (attachment loss and periodontal disease) and preterm birth.

Several variables were considered *a priori* to be potential cofounders; these included previous PD, maternal age, maternal education, prenatal visits, and hypertension during pregnancy. When these factors were controlled for, the significant association found in the univariate analysis persisted; in fact, an increased risk was observed. The inclusion of previous preterm/low birth weight in the models did not change the parameters. The logistic model showed a satisfactory goodness of fit (likelihood test = 37.87; $p < 0.001$). In the present study, the population attributable risk of preterm birth, determined with several clinical criteria for maternal periodontal disease, was high (greater than 10%); this high risk was most likely due to the high prevalence of these additional factors (Table 2).

DISCUSSION

In this study, we partially address the question of whether pregnant women with periodontal disease are at a greater risk for preterm birth. Increased risk was found to be significantly linked to bleeding and maximum periodontal pocket depth. It is noteworthy that in the vast number of published studies examining the association between PD and preterm/low birth weight, only those employing periodontal pocket depth as a definition of *exposure* observed statistically significant results[2].

In a stratified analysis, we found no increased risk of preterm birth associated with increasing attachment loss or periodontal pocket depth (data not shown).

Our findings that preterm birth was linked to higher maternal age, low maternal education, hypertension during pregnancy, intrauterine growth restriction, and premature rupture of membranes correspond to those of other reports. Indeed, all these variables are well-known sociodemographic and clinically relevant risk factors for preterm delivery[10].

The observed 41% prevalence of PD in pregnant women is also similar to the findings reported by other researchers[5,7,21,30]. Interestingly, we found that the risk of premature birth associated with PD increased with the extent of prematurity; that is, the association of PD with gestational age was strongest with the most severe prematurity. Before 33 weeks (*severe prematurity*), the risk was nearly three times greater than in term pregnancies; this difference was statistically significant. Two studies of other populations found similar results[11,13], although the failure of this trend to reach statistical significance in these studies could be due to their small sample sizes.

Adjustment for potential confounding variables showed an independent and increased risk of preterm birth associated with bleeding and periodontal pocket depth. This risk may be the result of cumulative tissue destruction over a lifetime rather than only a pregnancy-related risk of periodontal susceptibility[6]. In addition, low socioeconomic status has historically been associated with greater rates of gingivitis and poor oral hygiene. Furthermore, pregnancy increases the likelihood of the onset of new periodontal disease[20] and preexisting PD may become active during pregnancy because of the increased concentration of progesterone during the third trimester[4].

Population attributable risk is a function of both the OR and the exposure prevalence of the population to the risk factor, so common risk factors account for a much higher PAR than those that are uncommon. Therefore, because the prevalence of several clinical measures of maternal periodontal disease and the ORs were relatively elevated, the population attributable risk in this study was high. Similar findings have been reported in other studies[2,3,20]. This high PAR implies that 16% of the approximately 70 thousand preterm births that occur annually in Argentina may be attributable to PD. Theoretically, the elimination of periodontal infection in pregnant women could result in the prevention of approximately 11,200 preterm births a year, with concomitant savings in the costs of intensive care.

Table 3 – Crude odds ratios (OR), adjusted odds ratios (aOR) with corresponding 95% confidence intervals, and population attributable risk (PAR) for preterm birth associated with clinical measures of maternal periodontal disease (HMIRS, Buenos Aires, Argentina, 2007-2008)

	OR (95% CI)	aOR (95% CI)*	PAR (%)	*p*-value†
PD (Yes, No)	1.53 (0.75 – 3.12)	1.60 (0.92 – 2.27)	16.7	0.171
Bleeding index‡	3.04 (1.22 – 7.50)	4.19 (1.28 – 13.69)	58	0.018
PPD**	2.69 (1.31 – 5.52)	5.14 (1.50 – 17.6)	39	0.009
Attachment loss**	1.83 (0.90 – 3.70)	1.97 (0.55 – 7.10)	24	0.296

PD = periodontal disease; PAR = population attributable risk; PPD = periodontal pocket depth;
* Adjusted for previous PD, maternal age, maternal education, antenatal visits and hypertension; † For adjusted Odds Ratios; ‡ 1 = Yes; ** 1 mm = Yes.

Table 4 – Periodontal disease and preterm birth: case-control studies

Study	Year	Sample size	Confounders being controlled	OR (95% CI) or p-value	Conclusions
Offenbacher et al[20] USA	1996	Cases: 93, Controls: 31	Yes	aOR = 7.5 (1.95 – 28.8)	PD is a risk factor for PLBW
Fraser et al Canada	Unpublished observation	Cases: 147, Controls: 303	Yes	aOR = 2.54 (0.65 – 9.89)	PD is not a significant risk factor for PTB
Hasegawa et al[11] USA	2003	88	Yes	p 0.05	Significant risks factors for PTB: PPD mean, % CAL 3 mm
Goepfert et al[7] USA	2004	Cases: 59, Controls: 44	Yes	aOR = 2.5 (0.9 – 7.4)	Severe PD is not associated with early spontaneous PTB
Moore et al[19] UK	2005	Cases: 61, Controls: 93	No	p = 0.016	No association between severity of PD and PTB
Jarjoura et al[12] USA	2005	Cases: 83, Controls: 120	Yes	aOR = 2.75 (1.01 – 7.54)	Periodontitis is independently associated with early PTB
Castaldi et al[4] Argentina	2006	Cases: 274, Controls: 753	Yes	aOR = 1.40 (0.90 – 2.17)	Severe PD is not associated with PTB
Grandi et al Argentina	2008	Cases: 53, Controls: 79	Yes	aOR = 1.60 (0.92 – 2.27)	Significant risks factors for PTB: Bleeding index, PPD

PD = periodontal disease; PLBW = preterm low birthweight; PTB = preterm birth; aOR = OR was adjusted for confounders; PPD = periodontal pocket depth; CAL = clinical attachment level.

Studies linking periodontal disease to adverse pregnancy outcomes began in 1996, when Offenbacher et al[20] claimed to have found a strong association between the two. Since then, several studies and two excellent reviews have been conducted on the relationship between periodontal disease and adverse pregnancy outcomes[26,30]. To allow for comparison with our study, table 4 shows only those case-control studies that explored the relationship between periodontal disease as the exposure and preterm birth as the main outcome. Only half of the studies[11,12,20] in which the exposure variables were periodontitis, the bleeding index, periodontal pocket depth, and clinical attachment level (CAL), and one in which low preterm birth weight was the outcome, suggest that periodontal disease is a risk factor for preterm birth (with adjusted ORs ranging from 2.75 to 7.5, one not informed). However, the remaining studies failed to find a significant association between preterm birth and periodontal disease[4,7,19].

These findings have several implications. First, they demonstrate the weakness of retrospective studies (i.e., information bias). Second, methodological limitations raise serious doubts concerning the validity of earlier outcomes and conclusions. Methodological quality varied considerably in these studies and virtually every study showed serious shortcomings, including small sample size, a limited number of statistical analyses, inadequate control for potential confounders, and inadequate assessment of gestational age and measurement of periodontal disease. Finally, although some of the studies adjusted for important confounding variables by using multivariable regression analysis, it is possible that some residual confounding effects remained.

The combined analysis of epidemiological studies is made more difficult by the variety of periodontal disease measurements and the lack of consensus on the definition and classification of periodontal disease. These methodological differences may explain the lack of consistency between the studies. A robust measurement of periodontal disease should use periodontal pocket depth and clinical attachment level[26].

The present study has several strengths. Observer bias was minimized; only one experienced odontologist collected information, and rigorous selection criteria were used to define cases and controls. In addition, several indicators of periodontal disease were verified.

The study also includes several limitations that must be considered. First, we were not able to achieve the required sample size. Nevertheless, a recalculating power analysis with actual sample sizes yielded a value of 0.78, which shows a negligible difference from the planned original value. Therefore, it is unlikely that the present results could be due to chance. We recognize that our study is limited by the analysis of data from a single institution. While participants were blind to the research hypotheses, recall bias might have been present; women whose pregnancy finished in the preterm period could have recalled past exposures more accurately than controls[9,23]. On the other hand, when a disease is as common as PD and several risk factors for preterm delivery are well known, it becomes difficult to differentiate a new risk factor[23]. Moreover, mothers of preterm babies appear to have an increased risk of poor oral conditions than mothers of term babies; these differences can lead to results showing bleeding gums and deeper pockets from temporary gingivitis[12].

This is the second study of PD among pregnant women in Argentina; in the first, a different outcome measurement of PD was employed, but the design was similar and

included 1,562 women in the postpartum period[4]. However, this earlier study found no significant association between periodontal disease and preterm birth (stratified Mantel-Haenzel OR 1.06, 95% CI 0.70 – 1.50).

While the promotion of good oral health remains an important part of perinatal health care, our results suggest that a specific drive to improve the periodontal health of pregnant women could be a means of improving pregnancy outcomes. Nevertheless, it is not clear whether periodontal diseases play a causal role in adverse pregnancy outcomes. Additional longitudinal, epidemiologic, and interventional studies with clear and consistent definitions of periodontal disease and adverse pregnancy outcomes, sufficiently large sample sizes, and controls for key confounders are needed to validate this association and to determine whether it is causal.

CONCLUSIONS

In this population, only the bleeding index and periodontal pocket depth are risk factors for preterm birth in pregnant women. This risk rose with an increase in prematurity.

Doença periodontal materna e parto pré-termo: um estudo de caso-controle

RESUMO

OBJETIVOS: A doença periodontal pode ser uma fonte de infecção subclínica persistente que pode induzir respostas inflamatórias sistêmicas que aumentam o risco de parto pré-termo. O objetivo deste estudo foi determinar se a doença periodontal é um fator de risco para o parto pré-termo, bem como avaliar a associação deste risco com a idade gestacional. MÉTODOS: Este estudo de caso-controle abrangeu mulheres puérperas de gestações únicas; 53 mulheres que deram à luz antes da 37ª semana de gestação (casos) foram comparadas a 79 que evoluíram com parto a termo (controles). Procedeu-se a uma avaliação clínica periodontal completa dentro das 72 h após o parto. RESULTADOS: A taxa de prevalência da doença periodontal foi de 41% (54/132). Os casos de parto pré-termo apresentaram uma proporção de sangramento muito maior em comparação com os controles (86,7% versus 68%; p = 0,026), bem como uma profundidade máxima da bolsa periodontal maior após medição por sonda (3,9 ± 1,6 mm versus 3,2 ± 1 mm; p = 0,043). Não foram detectadas diferenças relacionadas à doença periodontal prévia, à perda de adesão ou à porcentagem de doença periodontal entre os grupos estudados. A análise de regressão logística revelou que o parto pré-termo foi associado ao índice de sangramento (*odds ratio* ajustada de 4,19; 95% CI: 1,28 – 13,69; p = 0,018) e à profundidade da bolsa periodontal (5,14; 95% CI: 1,50 – 17,6; p = 0,009). O risco de nascimento pré-termo associado à doença periodontal diminuiu com o aumento da idade gestacional. Além disso, o risco atribuído à população em geral é de 16%, risco este que aumentou com a diminuição da idade gestacional. CONCLUSÃO: Neste estudo com base na população, apenas o índice de sangramento e a profundidade da bolsa periodontal foram considerados fatores de risco para o parto prematuro; um risco maior foi associado à maior prematuridade.

Palavras-chave: Doenças Periodontais; Nascimento Prematuro; Gravidez; Fatores de Risco.

Enfermedad periodontal materna y parto pretérmino: un estudio de caso-control

RESUMEN

OBJETIVOS: La enfermedad periodontal puede ser una fuente de infección subclínica persistente que puede inducir a respuestas inflamatorias sistémicas que aumentan el riesgo de parto pretérmino. El objetivo de este estudio objetivo fue de determinar si la enfermedad periodontal es un factor de riesgo para el parto pretérmino, bien como evaluar la asociación de este riesgo con la edad gestacional. MÉTODOS: Este estudio de caso-control abarcó mujeres puérperas de gestaciones únicas; 53 mujeres que dieron a luz antes de la 37ª semana de gestación (casos) fueron comparadas a 79 que evolucionaron con parto a término (controles). Se procedió a una evaluación clínica periodontal completa dentro de las 72 h en seguida al parto. RESULTADOS: La tasa de prevalencia de la enfermedad periodontal fue de 41% (54/132). Los casos de parto pretérmino presentaron una proporción de sangrado mucho mayor en comparación a los controles (86,7 versus 68%; p = 0,026), bien como una profundidad máxima de la bolsa periodontal mayor luego de medición por sonda (3,9 ± 1,6 mm versus 3,2 ± 1 mm; p = 0,043). No se detectaron diferencias relacionadas a la enfermedad periodontal previa, a la pérdida de la adhesión o al porcentaje de enfermedad periodontal entre los grupos estudiados. El análisis de regresión logística reveló que el parto pretérmino fue asociado al índice de sangrado (*odds ratio* ajustada de 4,19; 95% CI: 1,28 – 13,69; p = 0,018) y a la profundidad de la bolsa periodontal (5,14; 95% CI: 1,50 – 17,6; p = 0,009). El riesgo de nacimiento prematuro asociado a la enfermedad periodontal disminuyó con el aumento de la edad gestacional. Además, el riesgo atribuido a la población en general es de 16%, riesgo este que aumenta con la disminución de la edad gestacional. CONCLUSIÓN: En este estudio con base en la población, apenas el índice de sangrado y la profundidad de la bolsa periodontal fueron considerados factores de riesgo para el parto prematuro; un mayor riesgo fue asociado a mayor prematuridad.

Palabras clave: Enfermedades Periodontales; Nacimiento Prematuro; Embarazo; Factores de Riesgo.

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