

# TUTORIAL DIRETRIZ STROBE



*Subsídios para a comunicação de estudos observacionais*

Selecionar modo APRESENTAÇÃO DE SLIDES



# TUTORIAL DIRETRIZ STROBE 2010

Tutorial desenvolvido na disciplina de  
**ODONTOLOGIA BASEADA EM EVIDÊNCIA**

**Discentes de doutorado:**

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Mendonça

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Barros

Com objetivo de facilitar a  
utilização e promover a  
divulgação do guia de  
delineamento STROBE

**Docentes:**

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Eliane Bemerguy Alves

Trata-se de um tutorial interativo. Clique nos ícones para obter as informações.

Clique [aqui](#) para visualizar as referências.



**STROBE** representa uma iniciativa colaborativa internacional de epidemiologistas, metodologistas, estatísticos, pesquisadores e editores de periódicos envolvidos na condução e divulgação de estudos observacionais, com o objetivo comum de **fortalecer o relato de estudos observacionais em Epidemiologia**<sup>1,2</sup>.



**Acesso à página  
oficial STROBE**



**Download  
Checklist**



**Periódicos que  
recomendam**

**O QUE É UM ESTUDO  
OBSERVACIONAL ?**

**VAMOS AO STROBE !**



Voltar ao início

Em um estudo observacional, o investigador avalia se existe **associação entre um determinado fator e um desfecho** - apenas observando a ocorrência do evento – em sujeitos que já estão divididos em grupos, com base em alguma experiência ou exposição. **Neste tipo de estudo não há intervenção<sup>1,3</sup>.**

CASO-CONTROLE

COORTE

ESTUDO TRANSVERSAL

VAMOS AO STROBE !



Neste estudo, existe um **grupo ou série de pacientes** que têm uma determinada doença de interesse (**caso**) e um grupo de indivíduos sem a doença (**controle**). Os dois grupos são então comparados para se determinar quais fatores estão associados com a doença em estudo. A comparação é feita em relação à proporção de indivíduos que tiveram a exposição ou característica de interesse<sup>1</sup>.



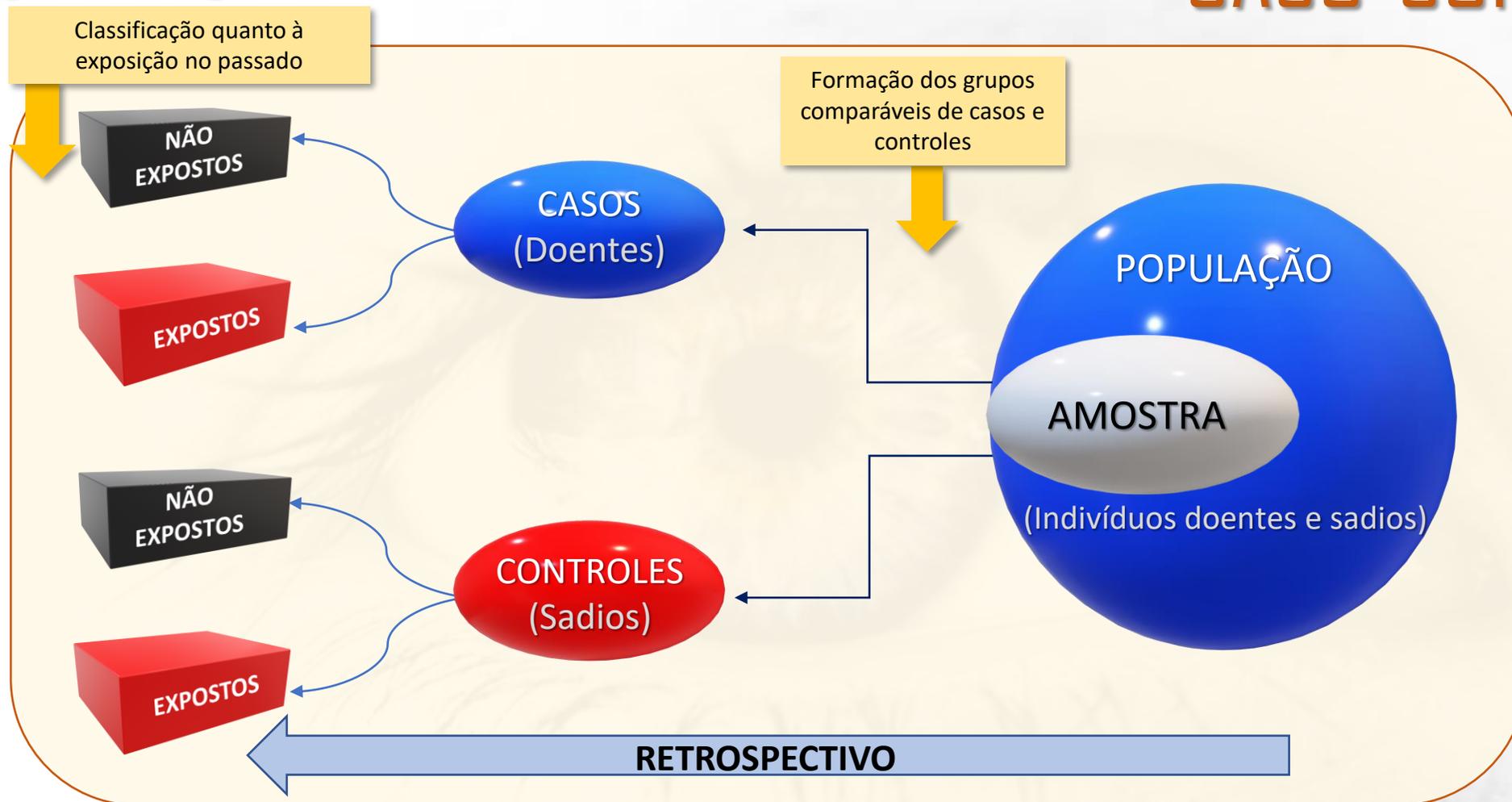
Ver esquema

VOLTAR

VAMOS AO STROBE !



Voltar ao início



Fonte: Adaptado de Giolo, 2017

VOLTAR

VAMOS AO STROBE !



Voltar ao início

Este estudo parte de **indivíduos saudáveis**, os quais são classificados em um ou mais grupos com base na presença, ausência ou diferentes graus de **exposição a um determinado fator**; e que são acompanhados por um determinado tempo para avaliar o **desenvolvimento da doença** (ou outro evento)<sup>1</sup>.

VOLTAR

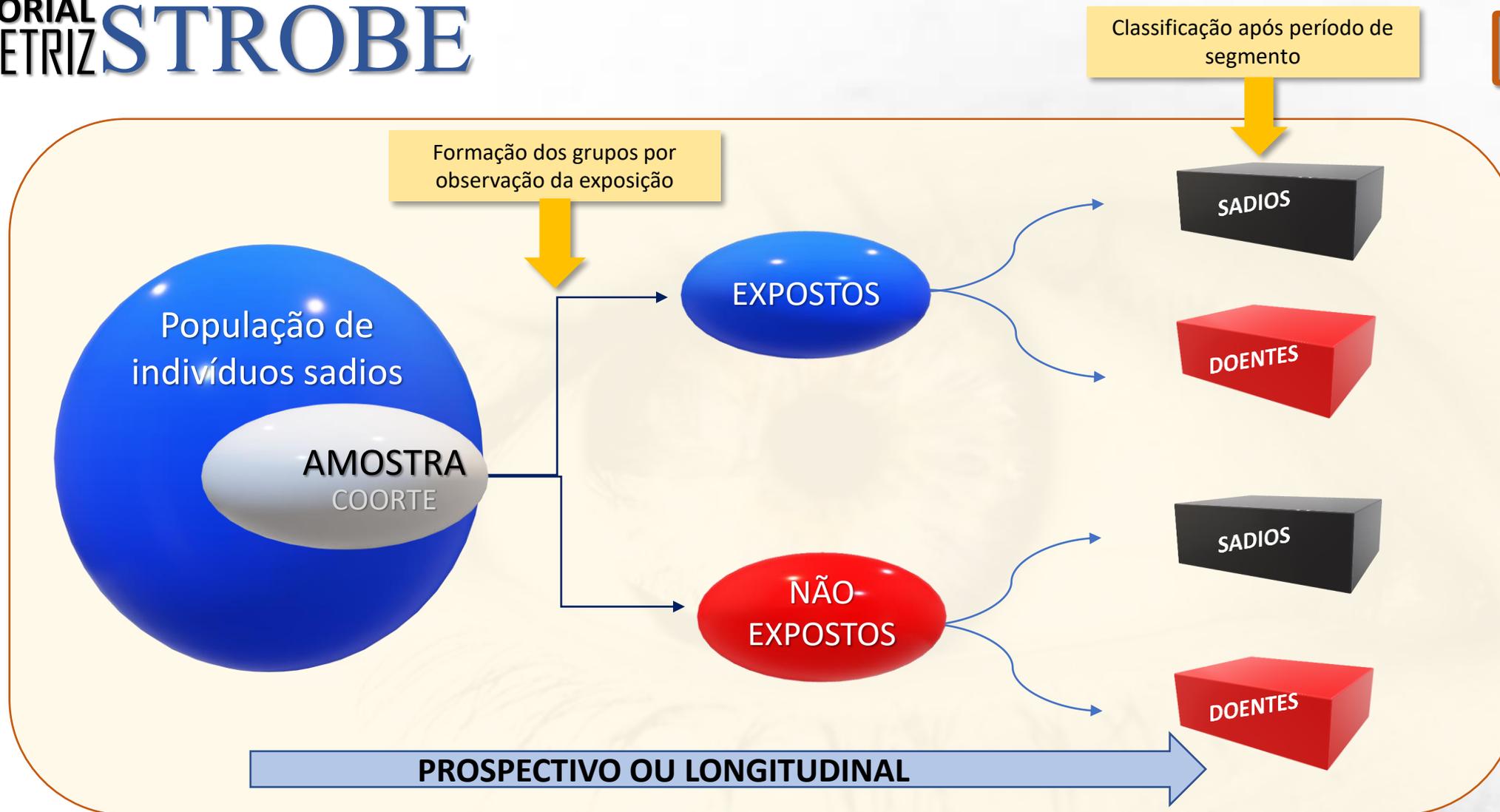
VAMOS AO STROBE !



Ver esquema



Voltar ao início



Fonte: Adaptado de Giolo, 2017

VOLTAR

VAMOS AO STROBE !



Voltar ao início

Neste estudo, a situação de saúde de uma determinada população é avaliada a partir do estado de cada indivíduo que a compõe. **Estudos transversais medem a prevalência da doença** (proporção da população que tem a doença num determinado momento), e, por essa razão, são frequentemente chamados de estudo de prevalência <sup>1</sup>.



Ver esquema

VOLTAR

VAMOS AO STROBE !



Voltar ao início

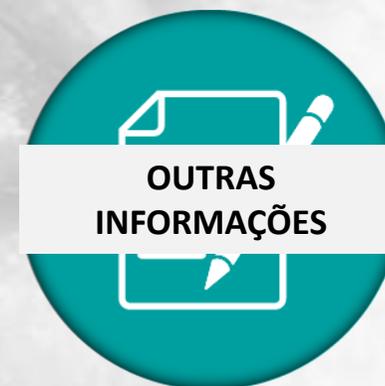
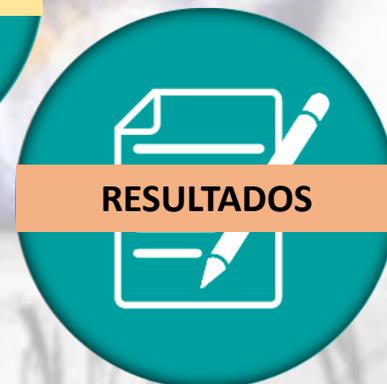
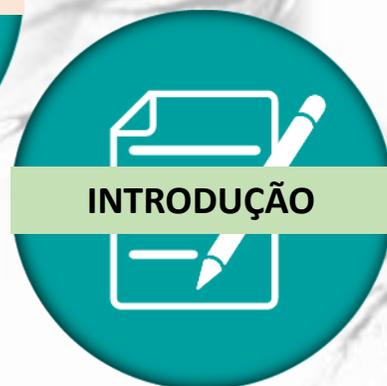


Fonte: Adaptado de Giolo, 2017

VOLTAR

VAMOS AO STROBE !

VOCÊ PRECISA DE  
ORIENTAÇÕES SOBRE...



## VOCÊ PRECISA DE ORIENTAÇÕES SOBRE...



**I**ndique o desenho do estudo no título ou no resumo, com o termo comumente utilizado<sup>4</sup>.



**F**orneça um resumo informativo e equilibrado do que foi feito e o que foi encontrado<sup>4</sup>.

QUERO UM EXEMPLO!

OK, ENTENDI!



Voltar ao início



## VOCÊ PRECISA DE ORIENTAÇÕES SOBRE...



Contexto/Justificativa:

**D**etalhe o referencial teórico e razões para executar a pesquisa<sup>4</sup>.



Objetivo:

**D**escreva os objetivos específicos, incluindo quaisquer hipóteses pré-existentes<sup>4</sup>.

QUERO UM EXEMPLO!

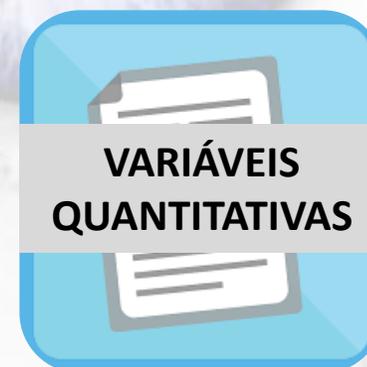
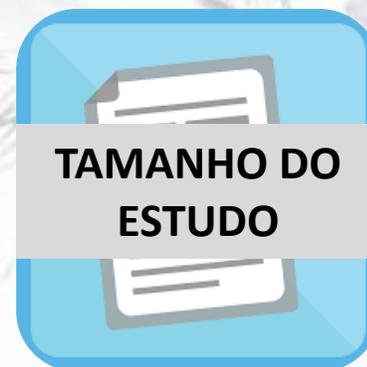
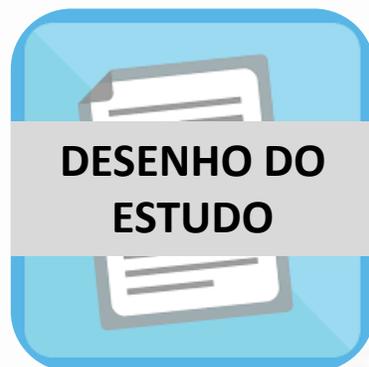
OK, ENTENDI!



Voltar ao início

# TUTORIAL DIRETRIZ **STROBE**

VOCÊ PRECISA DE  
ORIENTAÇÕES SOBRE...



OK, ENTENDI!



Voltar ao início

# TUTORIAL DIRETRIZ STROBE

VOCÊ PRECISA DE ORIENTAÇÕES SOBRE...



OK, ENTENDI !



Voltar ao início

# TUTORIAL DIRETRIZ STROBE

VOCÊ PRECISA DE  
ORIENTAÇÕES SOBRE...



OK, ENTENDI !



Voltar ao início

VOCÊ PRECISA DE ORIENTAÇÕES SOBRE...



**E**specifique a fonte de financiamento do estudo e o papel dos financiadores. Se aplicável, apresente tais informações para o estudo original no qual o artigo é baseado<sup>4</sup>.

QUERO UM EXEMPLO!

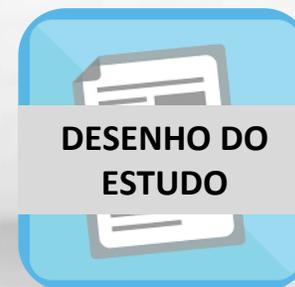
OK, ENTENDI!



Voltar ao início

# TUTORIAL DIRETRIZ STROBE

VOCÊ PRECISA DE ORIENTAÇÕES SOBRE...



Apresente, no início do artigo, os elementos-chave relativos ao desenho do estudo<sup>4</sup>.

VOLTAR PARA MÉTODOS !

QUERO UM EXEMPLO!

OK, ENTENDI!



Voltar ao início

# TUTORIAL DIRETRIZ STROBE

VOCÊ PRECISA DE ORIENTAÇÕES SOBRE...



Descreva o contexto, locais e datas relevantes, incluindo os períodos de recrutamento, exposição, acompanhamento (follow-up) e coleta de dados<sup>4</sup>.

VOLTAR PARA MÉTODOS !

QUERO UM EXEMPLO!

OK, ENTENDI!



Voltar ao início

# TUTORIAL DIRETRIZ **STROBE**

SEU ESTUDO É DO TIPO:



ESTUDO COORTE

ESTUDO CASO/CONTROLE

TRANSVERSAL

VOLTAR PARA MÉTODOS !



Voltar ao início

# TUTORIAL DIRETRIZ STROBE

SEU ESTUDO É DO TIPO:

ESTUDO COORTE



Apresente os critérios de elegibilidade, fontes e métodos de seleção dos participantes. Descreva os métodos de acompanhamento<sup>4</sup>.

MEU ESTUDO É PAREADO!

VOLTAR

QUERO UM EXEMPLO!

OK, ENTENDI!



Voltar ao início

# TUTORIAL DIRETRIZ STROBE

SEU ESTUDO É DO TIPO:

ESTUDO COORTE  
PAREADO



Para os estudos pareados, apresente os critérios de pareamento e o número de expostos e não expostos<sup>4</sup>.

VOLTAR

OK, ENTENDI!



Voltar ao início

# TUTORIAL DIRETRIZ STROBE

SEU ESTUDO É DO TIPO:

ESTUDO CASO/CONTROLE



Apresente os critérios de elegibilidade, as fontes e o critério-diagnóstico para identificação dos casos e os métodos de seleção dos controles. Descreva a justificativa para a eleição dos casos e controles<sup>4</sup>.

MEU ESTUDO É PAREADO!

VOLTAR

OK, ENTENDI!



Voltar ao início

# TUTORIAL DIRETRIZ STROBE

SEU ESTUDO É DO TIPO:

ESTUDO CASO/CONTROLE  
PAREADO



Para os estudos pareados, apresente os critérios de pareamento e o número de controles para cada caso<sup>4</sup>.

NÃO ESTOU CERTO SE É  
PAREADO!

VOLTAR

OK, ENTENDI!



Voltar ao início

## SEU ESTUDO É DO TIPO:

ESTUDO CASO/CONTROLE  
PAREADO

O pareamento ocorre quando, para cada caso, são recrutados um ou mais controles idênticos com relação à certas características outras que não o fator sobre investigação<sup>1</sup>.

As variáveis escolhidas nesse processo de pareamento são aquelas suspeitas de serem variáveis de confundimento<sup>1</sup>.

VOLTAR

# TUTORIAL DIRETRIZ STROBE

SEU ESTUDO É DO TIPO:

TRANSVERSAL



**A**presente os critérios de elegibilidade, as fontes e os métodos de seleção dos participantes<sup>4</sup>.

VOLTAR

OK, ENTENDI!



Voltar ao início

# TUTORIAL DIRETRIZ STROBE

VOCÊ PRECISA DE ORIENTAÇÕES SOBRE...



Defina<sup>4</sup>:

Desfecho

Exposição

Preditores

Confundidores

Modificadores de efeito

Apresente os critérios de diagnóstico, quando necessário<sup>4</sup>.

VOLTAR PARA MÉTODOS !

QUERO UM EXEMPLO!

OK, ENTENDI!



Voltar ao início

Desfecho

**T**ambém denominado de evento, são variáveis que são monitorizadas durante um estudo para documentar o impacto que uma dada exposição tem na saúde de uma população<sup>1,6</sup>.

VOLTAR

Exposição

**O** termo exposição se refere não somente a fatores de risco, mas também aos de proteção. Inclui quaisquer características de um indivíduo ou quaisquer agentes com os quais ele entre em contato e que possam ser importantes para a saúde<sup>1,6</sup>.

VOLTAR

## Preditores

É a variável que permite predizer uma resposta (exemplo: no caso da variável resposta ser a ocorrência de câncer, uma variável preditora poderia ser tabagismo)<sup>7</sup>.

VOLTAR

## Confundidores

Para ser considerado um fator de confundimento, a variável deve estar associada com a exposição e com o desfecho e não fazer parte da cadeia causal que leva essa exposição ao desfecho<sup>6</sup>.

VOLTAR

## Modificadores de efeito

Quando o efeito de uma exposição sobre um desfecho varia conforme o nível de uma terceira variável, diz-se que há modificação de efeito. Em termos estatísticos, a modificação de efeito constitui uma interação<sup>8</sup>.

Por exemplo, a falta de aleitamento materno está associada com um risco relativo de morte por diarreia igual a 23 para crianças com menos de 2 meses de idade. Dos 2 aos 12 meses, o risco relativo é de 5. A idade, portanto, modifica o efeito do aleitamento<sup>8</sup>.

VOLTAR

## VOCÊ PRECISA DE ORIENTAÇÕES SOBRE...



Para cada variável de interesse, forneça a fonte dos dados e os detalhes dos métodos utilizados na avaliação (mensuração). Quando existir mais de um grupo, descreva a comparabilidade dos métodos de avaliação<sup>4</sup>.

\* Forneça informações separadamente para casos e controles em estudos de caso-controle e, se aplicável, para casos expostos e grupos não expostos em estudos de coorte e transversais.

VOLTAR PARA MÉTODOS !

QUERO UM EXEMPLO!

OK, ENTENDI!



Voltar ao início

# TUTORIAL DIRETRIZ **STROBE**

VOCÊ PRECISA DE  
ORIENTAÇÕES SOBRE...



Especifique todas as medidas adotadas para evitar potenciais fontes de viés<sup>4</sup>.

VOLTAR PARA MÉTODOS !

QUERO UM EXEMPLO!

OK, ENTENDI!



Voltar ao início

# TUTORIAL DIRETRIZ STROBE

VOCÊ PRECISA DE ORIENTAÇÕES SOBRE...



Explique como foi determinado o tamanho amostral<sup>4</sup>.

VOLTAR PARA MÉTODOS !

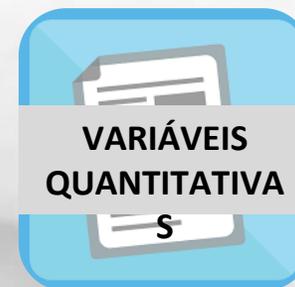
QUERO UM EXEMPLO!

OK, ENTENDI!



Voltar ao início

VOCÊ PRECISA DE ORIENTAÇÕES SOBRE...



Explique como foram tratadas as variáveis quantitativas na análise. Se aplicável, descreva as categorizações que foram adotadas e o porquê<sup>4</sup>.

VOLTAR PARA MÉTODOS !

QUERO UM EXEMPLO!

OK, ENTENDI!



Voltar ao início

VOCÊ PRECISA DE  
ORIENTAÇÕES SOBRE...



- (a) **D**escreva todos os métodos estatísticos, incluindo aqueles usados para controlar a confusão.
- (b) **D**escrever quaisquer métodos usados para examinar subgrupos e interações.
- (c) **E**xplicar como os dados ausentes foram tratados<sup>4</sup>.

ESTUDO COORTE

ESTUDO CASO/CONTROLE

TRANSVERSAL

- (e) **D**escreva qualquer análise de sensibilidade<sup>4</sup>.

VOLTAR PARA MÉTODOS !

QUERO UM EXEMPLO!

OK, ENTENDI!



Voltar ao início

ESTUDO COORTE

MÉTODOS  
ESTATÍSTICOS

MÉTODOS



(d) **S**e aplicável, descreva como os abandonos de acompanhamento foram tratados<sup>4</sup>.

VOLTAR



Voltar ao início



(d) **S**e aplicável, explique como foi endereçada a correspondência de casos e controles<sup>4</sup>.

TRANSVERSAL

MÉTODOS  
ESTATÍSTICOS

MÉTODOS



(d) **S**e aplicável, descreva os métodos analíticos levando em consideração estratégia de amostragem<sup>4</sup>.

VOLTAR



Voltar ao início

## VOCÊ PRECISA DE ORIENTAÇÕES SOBRE...



(a) **D**escreva o número de participantes em cada etapa do estudo<sup>4</sup>.  
(Por exemplo, número de potencialmente elegíveis, examinados para elegibilidade, elegíveis de fato, incluídos no estudo, que terminaram o acompanhamento e efetivamente analisados.



(b) **D**escreva as razões para a perdas em cada fase<sup>4</sup>.

(c) **C**onsidere o uso de um diagrama de fluxo<sup>4</sup>.

\* Forneça informações separadamente para casos e controles em estudos de caso-controle e, se aplicável, para casos expostos e grupos não expostos em estudos de coorte e transversais<sup>4</sup>.

VOLTAR PARA  
RESULTADOS  
!

QUERO UM EXEMPLO!



Voltar ao início



(a) **D**escreva as características dos participantes (demográficas, clínicas e sociais) e as informações sobre exposições e confundidores em potencial<sup>4</sup>.

(b) **I**ndique o número de participantes com dados faltantes para cada variável de interesse<sup>4</sup>.

(c) **E**studo de coorte - Resuma o tempo de acompanhamento<sup>4</sup>.

\* Forneça informações separadamente para casos e controles em estudos de caso-controle e, se aplicável, para casos expostos e grupos não expostos em estudos de coorte e transversais<sup>4</sup>.



VOLTAR PARA  
RESULTADOS



QUERO UM EXEMPLO!



Voltar ao início

# TUTORIAL DIRETRIZ STROBE

VOCÊ PRECISA DE  
ORIENTAÇÕES SOBRE...



ESTUDO COORTE

ESTUDO CASO/CONTROLE

TRANSVERSAL

VOLTAR PARA  
RESULTADOS !



Voltar ao início

# TUTORIAL DIRETRIZ **STROBE**

VOCÊ PRECISA DE  
ORIENTAÇÕES SOBRE...

ESTUDO COORTE



**D**escreva o número de eventos-desfecho ou as medidas-resumo ao longo do tempo<sup>4</sup>.

\* Forneça informações separadamente para casos e controles em estudos de caso-controle e, se aplicável, para casos expostos e grupos não expostos em estudos de coorte e transversais<sup>4</sup>.

VOLTAR

QUERO UM EXEMPLO!



Voltar ao início

## VOCÊ PRECISA DE ORIENTAÇÕES SOBRE...

ESTUDO CASO/CONTROLE



Descreva o número de indivíduos em cada categoria de exposição ou apresente medidas-resumo de exposição<sup>4</sup>.

\* Forneça informações separadamente para casos e controles em estudos de caso-controle e, se aplicável, para casos expostos e grupos não expostos em estudos de coorte e transversais<sup>4</sup>.

VOLTAR



Voltar ao início

VOCÊ PRECISA DE ORIENTAÇÕES SOBRE...

TRANSVERSAL



Descreva o número de eventos-desfecho ou apresente as medidas-resumo<sup>4</sup>.

\* Forneça informações separadamente para casos e controles em estudos de caso-controle e, se aplicável, para casos expostos e grupos não expostos em estudos de coorte e transversais<sup>4</sup>.

VOLTAR



Voltar ao início



(a) **D**escreva as estimativas não ajustadas e, se aplicável, as estimativas ajustadas por variáveis confundidoras, assim como sua precisão (ex: intervalos de confiança). Deixe claro quais foram os confundidores utilizados no ajuste e porque foram incluídos<sup>4</sup>.

(b) **Q**uando variáveis contínuas forem categorizadas, informe os pontos de corte utilizados<sup>4</sup>.

(c) **S**e pertinente, considere transformar as estimativas de risco relativo em termos de risco absoluto, para um período de tempo relevante<sup>4</sup>.



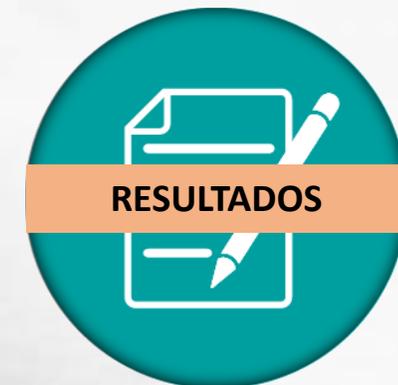
VOLTAR PARA  
RESULTADOS !

QUERO UM EXEMPLO!



Voltar ao início

VOCÊ PRECISA DE ORIENTAÇÕES SOBRE...



Descreva outras análises que tenham sido realizadas. Ex: análises de subgrupos, interação, sensibilidade<sup>4</sup>.

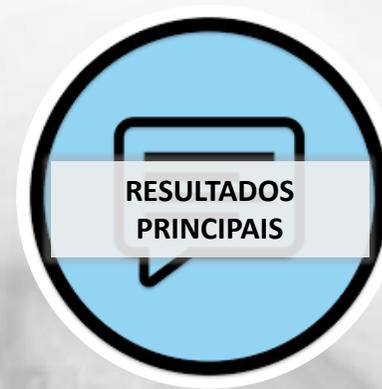
VOLTAR PARA RESULTADOS !

QUERO UM EXEMPLO!



Voltar ao início

VOCÊ PRECISA DE  
ORIENTAÇÕES SOBRE...



Resuma os principais achados relacionando-os aos objetivos do estudo<sup>4</sup>.

VOLTAR PARA  
DISCUSSÃO !

QUERO UM EXEMPLO!



Voltar ao início

## VOCÊ PRECISA DE ORIENTAÇÕES SOBRE...



Apresente as limitações do estudo, levando em consideração fontes potenciais de viés ou imprecisão. Discuta a magnitude e direção de vieses em potencial<sup>4</sup>.

VOLTAR PARA  
DISCUSSÃO !

QUERO UM EXEMPLO!

VOCÊ PRECISA DE  
ORIENTAÇÕES SOBRE...



**A**presente uma interpretação cautelosa dos resultados, considerando os objetivos, as limitações, a multiplicidade das análises, os resultados de estudos semelhantes e outras evidências relevantes<sup>4</sup>.

VOLTAR PARA  
DISCUSSÃO !

QUERO UM EXEMPLO!



Voltar ao início

# TUTORIAL DIRETRIZ STROBE

VOCÊ PRECISA DE  
ORIENTAÇÕES SOBRE...



Discuta a generalização (validade externa) dos resultados<sup>4</sup>.

VOLTAR PARA  
DISCUSSÃO !

QUERO UM EXEMPLO!



Voltar ao início

# TUTORIAL DIRETRIZ STROBE

## VOCÊ PRECISA DE ORIENTAÇÕES SOBRE...

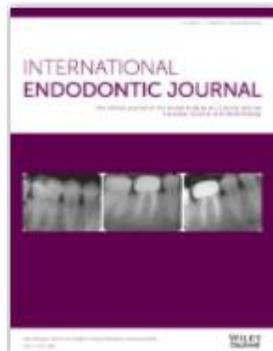


> Int Endod J. 2018 Sep;51(9):955-968. doi: 10.1111/iej.12908. Epub 2018 Mar 7.

### A 20-year historical prospective cohort study of root canal treatments. A Multilevel analysis

C Prati<sup>1</sup>, C Pirani<sup>1</sup>, F Zamparini<sup>1</sup>, M R Gatto<sup>2</sup>, M G Gandolfi<sup>2</sup>

Affiliations + expand



Volume 51, Issue 9  
September 2018  
Pages 955-968

VOLTAR



Volume 29, Issue 3  
March 2016

## Relationship Between Prehypertension/Hypertension and Periodontal Disease: A Prospective Cohort Study

Yuya Kawabata,<sup>1</sup> Daisuke Ekuni,<sup>1</sup> Hisataka Miyai,<sup>1</sup> Kota Kataoka,<sup>1</sup> Mayu Yamane,<sup>1</sup> Shinsuke Mizutani,<sup>1</sup> Koichiro Irie,<sup>1</sup> Tetsuji Azuma,<sup>1</sup> Takaaki Tomofuji,<sup>1,2</sup> Yoshiaki Iwasaki,<sup>3</sup> and Manabu Morita<sup>1</sup>

### BACKGROUND

Most cross-sectional studies have found a significant positive relationship between periodontal disease and prehypertension/hypertension. However, these studies had limitations and there are few prospective cohort studies in young adults. The purpose of this prospective cohort study was to investigate whether periodontal disease was related to prehypertension/hypertension in Japanese university students.

### METHODS

Students ( $n = 2,588$ ), who underwent health examinations before entering university and before graduation, were included in the analysis. The association between periodontal disease such as the percentage of bleeding on probing (BOP) and community periodontal index (CPI) scores, and change in blood pressure status was determined.

### RESULTS

At the reexamination, the numbers of participants with prehypertension (systolic blood pressure 120–139 mm Hg or diastolic blood pressure 80–89 mm Hg) and hypertension ( $\geq 140/90$  mm Hg) were 882

(34.1%) and 109 (4.2%), respectively. In a logistic regression model, the risk of hypertension was significantly associated with male (odds ratio (OR): 6.31; 95% confidence interval (CI): 2.63–15.13;  $P < 0.001$ ), no habitual physical activity at baseline (OR: 2.90; 95% CI: 1.56–5.38;  $P < 0.01$ ) and periodontal disease defined as the presence of both probing pocket depth (PPD)  $\geq 4$  mm and BOP  $\geq 30\%$  at baseline (OR: 2.74; 95% CI: 1.19–6.29;  $P = 0.02$ ) in participants with prehypertension at baseline. On the other hand, the risk of prehypertension was not associated with presence of periodontal disease (OR: 0.93; 95% CI: 0.51–1.70;  $P = 0.82$ ).

### CONCLUSION

In the short-term prospective cohort study, a significant association between presence of periodontal disease and hypertension was observed in Japanese university students.

**Keywords:** blood pressure; cohort studies; hypertension; periodontal disease; university students.

doi:10.1093/ajh/hpv117

# TUTORIAL DIRETRIZ STROBE

## VOCÊ PRECISA DE ORIENTAÇÕES SOBRE...

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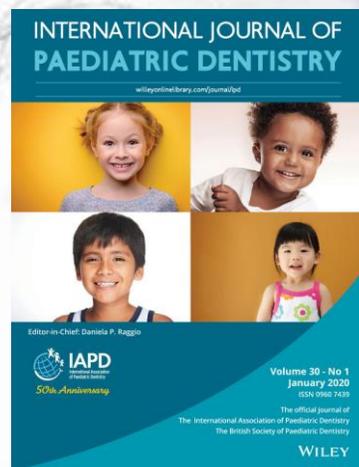
### ORIGINAL ARTICLE

INTERNATIONAL JOURNAL OF  
PAEDIATRIC DENTISTRY WILEY

## Developmental enamel defects are associated with early childhood caries: Case-control study

Patrícia Corrêa-Faria<sup>1</sup> | Suzane Paixão-Gonçalves<sup>2</sup> | Maria Letícia Ramos-Jorge<sup>3</sup> | Saul Martins Paiva<sup>2</sup> | Isabela Almeida Pordeus<sup>2</sup>

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VOLTAR

### Contexto/Justificativa:

staining and morphological abnormalities, especially in the children with DED tend to have a negative impact on the quality of life<sup>5</sup> as well as an increased risk of early childhood caries (ECC).<sup>6-9</sup>

Early childhood caries is a 12th most prevalent disease among children, affecting ~560 million children.<sup>10,11</sup> This condition has a higher significance clinical, social and economic, moreover than risk of pain, lesions in permanent teeth, delayed on the child development and reduction in the oral health-related quality of life.<sup>12</sup> Aetiology of ECC is associated with the individual and populational factors.<sup>12,13</sup> In the individual context, factors such as genetic, biological and behaviour of children and families are included. In the community context, the ECC is associated with culture, social environment, social capital and accessibility to healthcare system.<sup>14</sup>

The association between DED and ECC has been investigated previous studies<sup>6,8,15,16</sup> carried out with specific populations such as child with low socioeconomic status,<sup>6</sup> pre-term infants,<sup>15</sup> assessing the unique type of tooth<sup>16</sup> or not evaluating the influence of socioeconomic factors in the occurrence of ECC.<sup>7</sup> Knowledge on this association as well as the influence of other factors associated with ECC has contributed to the design of preventive measures and oral

### Objetivo:

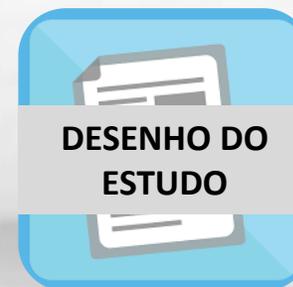
designs, such as case-control studies, that allow the simultaneous evaluation of factors associated with ECC as well as possible interrelations among these factors.

The aims of this case-control study were to compare the frequency of ECC in children with or without DED and verified the association between ECC and sociodemographic factors.

INTRODUÇÃO



## VOCÊ PRECISA DE ORIENTAÇÕES SOBRE...



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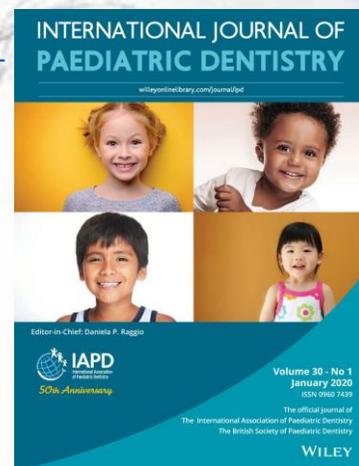
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## 2 | MATERIAL AND METHODS

After the study was approved from the Human Research Ethics Committee of the Universidade Federal dos Vales do Jequitinhonha e Mucuri, Brazil, the parents were informed about the study and signed a statement of informed consent.

### 2.1 | **Study design and sample characteristics**

The case-control study was nested in a population-based cross-sectional study with 387 children aged two to five years representative of the pre-school population of Diamantina, Brazil. The study was carried out at the ten Primary Healthcare Units in the city during the National Child Vaccination Day.

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## VOCÊ PRECISA DE ORIENTAÇÕES SOBRE...



### Risk factors for tooth loss in adults: A population-based prospective cohort study

Manoelito Ferreira Silva Junior , Marília Jesus Batista , Maria da Luz Rosário de Sousa  

Published: July 22, 2019 • <https://doi.org/10.1371/journal.pone.0219240>



#### Data collection

Baseline. Data collection took place between June and September 2011. The survey consisted of an oral examination and interview. The clinical oral examinations were performed in the subject's home under natural light (without previous prophylaxis or drying) using Community Periodontal Index (CPI) probes and oral flat mirrors as recommended by the World Health Organization [27]. The clinical examination surveyed included coronal dental cavities mea-

Only examiners trained by a benchmark examiner (trainer) were allowed to clinically survey subjects. Training included theoretical and practical discussions, which accounted for a total of 16 hours. Each examiner was trained to assess coronal cavities, periodontal condition, and visible biofilm. The intra-examiner agreement was observed  $\geq 96.5\%$  and the Kappa index ranged from 0.89 to 1.00 for all clinical conditions, which were both within the standards of reliability [29].

Follow-up. Data collection took place between June 2015 and September 2015. The same participants were sought at their addresses to participate in the study. Each participant signed a new Free and Clarified Consent Term to participate in the present study. The same clinical conditions were assessed, using the same criteria and examination protocol [26]. At the time of data collection, each individual retained the same baseline identification.

Two examiners participated in this stage of data collection; they were trained by a benchmark examiner (baseline examiner) with theoretical and practical discussions, calibrated to a total of 20 hours. The examiners were trained to assess coronal cavities, periodontal condition

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## SEU ESTUDO É DO TIPO:

ESTUDO COORTE

PARTICIPANTES

MÉTODOS

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#### Population and sample

**Baseline.** To calculate the representative sample of adults (20–64 years) living in Piracicaba, São Paulo, oral health conditions were assessed in different age groups and two different calculations were estimated for the sample size of young adults (20–44 years) and older adults (45–64 years). We adopted a design effect of 1.5, adopted a margin of error of 10.0%; and a 95.0% confidence interval, included data concerning the prevalence of cavities for each age group (70.2% and 90.9%, respectively [17]), and added 20.0% to the total to compensate for occasional losses. The sample size for adults aged 20–44 years was 172, and for those aged 45–64 years was 68, totalling 240 adults [26].

Sample selection was carried out in two stages and based on the Brazilian Demographic Census (2000)—the latest data compiled at the time in which the study was conducted. The adult population of Piracicaba between 20–64 years old was 202,131. In the first stage, the unit

of selection was the census tract: from 456 census tracts, 30 were randomly selected (plus 2, in case substitutions were required). The second stage consisted of the selection of households, and a 30% increase in the probabilistic sample size to select the homes was used to compensate for non-responses. This resulted in a total of 342 houses, divided by the 30 census tracts selected for the study, resulting in a fraction of 11.4 houses per census tract. Based on the average population size of each census tract, 11 houses per tract were randomly selected and then one adult per house was also randomly selected [26].

**The inclusion criteria was:** being a Piracicaba resident aged 20–64 years old, with the mental capacity to answer the study questionnaire and agreeing to participate in the research. Mental capacity was evaluated by the subject's capacity to comprehend the questions and answer properly during the interview and evaluation. The adult needed to be in appropriate physical condition to participate in the study [26]

**Follow-up.** The same subjects used in the baseline were considered for the follow-up study, without regard to where they were currently living (i.e., even those who had moved away were followed up) [26].

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## Study variables

The dependent variable was incidence of tooth loss was stratified into codes 0 (no missing) and 1 (missing  $\geq 1$  teeth in 4 years) assessed by the difference between the Missing teeth (M) and the Decayed, Missing, and Filled Teeth index (DMFT) in 2011 and 2015. Missing teeth (M) were considered the teeth with codes 4 (tooth loss due to dental caries experience) and 5 (tooth loss due to other causes) of the DMFT index. To calculate the clinical variables, 32 teeth were considered.

The independent variables measured were related to baseline data and divided into four blocks (Fig 1). In the first block, an exogenous variable age was separated into categories of young adults (20–44 years), older adults (45–64 years) and skin color groups were defined by self-declaration, and these were categorized as white and non-white (black, brown, yellow, or indigenous). In the second block, primary determinants of oral health assessed the type of dental service (public, private, or insurance), service evaluation (good or regular/bad), marital status (stable relationship or no stable relationship), sex (male or female), family income as multiples of the minimum wage (MW): high ( $\geq 3$  MW), medium (1–2 MW), or low ( $\leq 1$  MW), and education level ( $\leq 4$  years, between 5–10 years, and  $\geq 11$  years). Social class was assessed according to the classification of Graciano et al. [30], which uses a score based on education, family income, occupation, type of residence, and number of residents at a household, gathering the scores into six social classes. For the present study, classes were divided into three groups: high, medium and low. Regarding information on oral health, oral health literacy was assessed using the method of Ishikawa et al. [31] for high or low, while the need for treatment was classified as 'yes' or 'no'.

In the third block, behaviours in oral health, personal health practices, and dental service utilization were assessed, such as: dental flossing (usual or unusual), smoking (yes or no), time

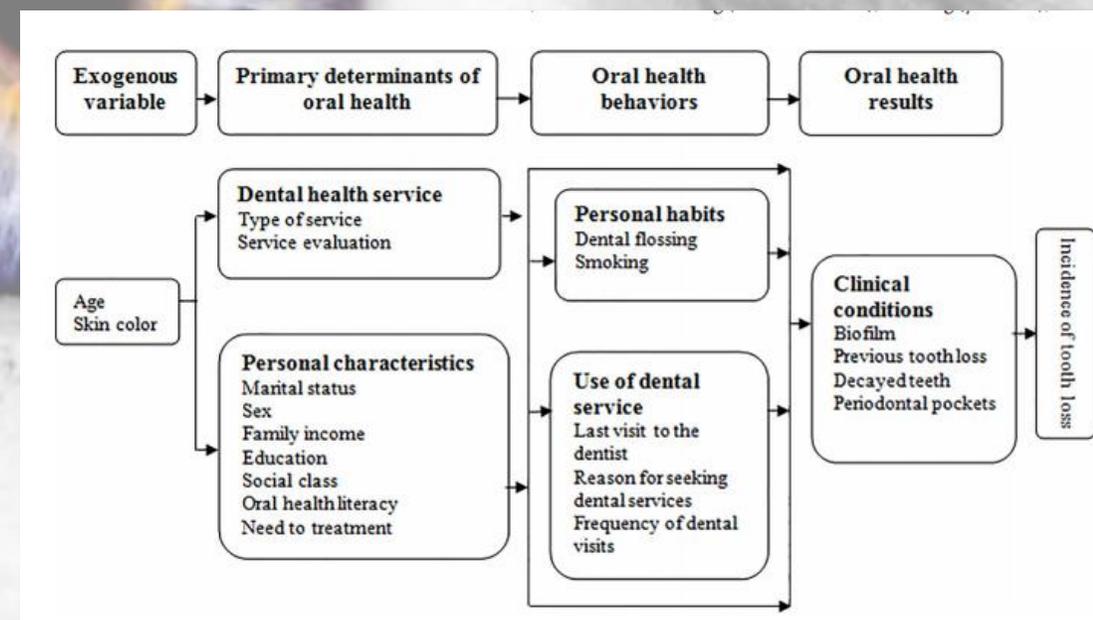
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## VOCÊ PRECISA DE ORIENTAÇÕES SOBRE...

### INTERNATIONAL JOURNAL OF PAEDIATRIC DENTISTRY

ORIGINAL ARTICLE

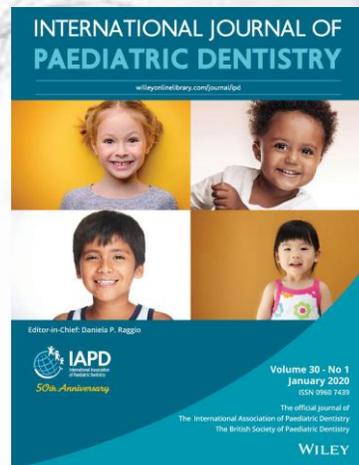
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### 2.3 | Clinical data collection

Dental examinations were performed by ten examiners (each with an assistant to record the findings) at the basic health units (one team at each unit) during the National Child Vaccination Day in 2010. For the examinations, the dentists used the head lamp (Petzl Zoom head lamp; Petzl America), disposable mouth mirror (PRISMA, Sao Paulo, SP, Brazil) and periodontal probe (WHO-621, Trinity, Campo). Mourão, PA, Brazil. The children were examined in a private room. During the examinations, dentists positioned each child standing in front of him.

World Health Organization<sup>18</sup> criteria were used for the diagnosis of ECC. Teeth were classified as: healthy, decayed, restored with caries and restored without caries. The component tooth loss was not evaluated due to the possibility of bias in the obtaining of information related to the cause of tooth loss provided by parents and the possibility of exfoliation of the primary teeth among older children. For statistical purposes, ECC was dichotomized as absent or present. Oral hygiene quality was determined based on the presence of visible plaque; the tooth surfaces were scraped with the clinical probe and the presence of plaque indicated inadequate hygiene.

DED (diffuse opacity, demarcated opacity and enamel hypoplasia) were diagnosed based on the criteria of the Developmental Defects of Enamel Index.<sup>2,19</sup> This variable was dichotomized as absent or present.

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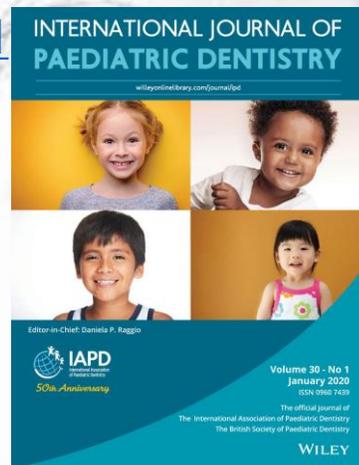
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one decayed tooth or missing or filled tooth surface of any primary tooth of a child. The control group was made up of children without ECC. The two groups were matched for age and sex at a proportion of one control for every case. For each case, one control was randomly selected from the children at risk of exhibiting ECC at the time of diagnosis of the cases. Systematic sampling was adopted for the randomization. To ensure randomization, the children remained in line and the researchers adopted a sequence for the examination: one child was examined, the next was not examined, the third was examined and so on.

#### 2.2 | Calibration exercise

The clinical examinations were performed by ten researchers who had undergone a training and calibration exercise for the diagnosis of ECC and DED. The calibration exercise consisted of two stages. The theoretical stage involved a discussion of the criteria for the diagnosis of ECC and DED and the analysis of photographs. Training and calibration were coordinated by a paediatric dentist (gold standard). All ten dentists evaluated photographs on two separate occasions with a one-week interval. Intra and interexaminer agreement was calculated using the Kappa test. Minimum intraexaminer and interexaminer agreement was 0.81 and 0.80 (very good) respectively.

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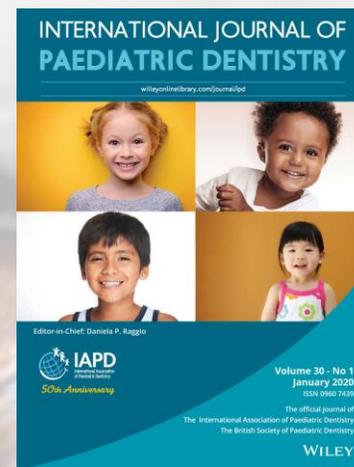
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The sample size was calculated to detect an odds ratio (OR) of 2.0 between cases and controls to achieve an 80% power of demonstrating a significant difference between groups at the 5% level. The proportion of children exposed to ECC was obtained from the previous cross-sectional study involving 387 children and was based on the proportion of children with DED who exhibited ECC (57.3%).<sup>17</sup> The Lee (*Laboratório de Epidemiologia e Estatística*) software program was used for the sample size calculation and determined 133 children in each group. The case group was composed by children with ECC, as determined by the clini-

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## VOCÊ PRECISA DE ORIENTAÇÕES SOBRE...



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**ORIGINAL ARTICLE**

WILEY COMMUNITY DENTISTRY AND ORAL EPIDEMIOLOGY

### Periodontitis and breast cancer: A case-control study

Camila S. Sfreddo<sup>1</sup> | Juliana Maier<sup>1</sup> | Sílvia C. De David<sup>1</sup> | Cristiano Susin<sup>2</sup> | Carlos Heitor C. Moreira<sup>1,2</sup>



### 2.7 | Outcome and exposure definition

The study outcome was breast cancer, and it was defined as a dichotomous variable. The main exposure variable was periodontitis, and four case definitions were used as follows: (i) generalized severe periodontitis was defined as the presence of the  $\geq 30\%$  sites with  $CAL \geq 5$  mm;<sup>17</sup> (ii) severe periodontitis was defined as  $\geq 2$  interproximal sites with  $CAL \geq 6$  mm (not at the same tooth) and  $\geq 1$  interproximal site with  $PPD \geq 5$  mm, according to the Centers for Disease Control and Prevention (CDC) and the American Academy of Periodontology (AAP);<sup>18</sup> (iii) full-mouth mean  $CAL$  (log-transformed, continuous); (iv) per cent of sites with  $CAL \geq 5$  mm (categorized into 10% increments, continuous).

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## VOCÊ PRECISA DE ORIENTAÇÕES SOBRE...



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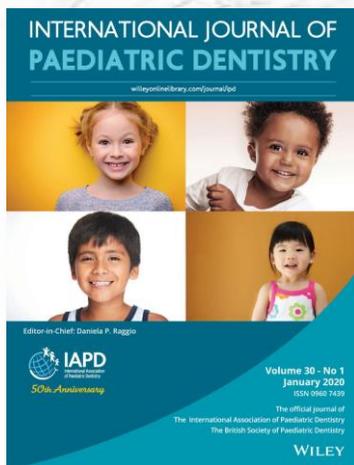
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### 3 | RESULTS

Of a total of 387 children eligible for the study (167 with ECC and 220 without ECC),<sup>17</sup> 196 participate in the study (98 with ECC and 98 without ECC). The exclusions were justified by the impossibility of matching between cases and controls of the same sex and age. The mean age was 3.4 years (standard deviation: 0.80 years). The mean number of decayed teeth among children was 1.99 (SD: 3.24), and the mean number of teeth restored without caries was 0.21 (SD: 1.06). The most affected teeth were the maxillary incisors.

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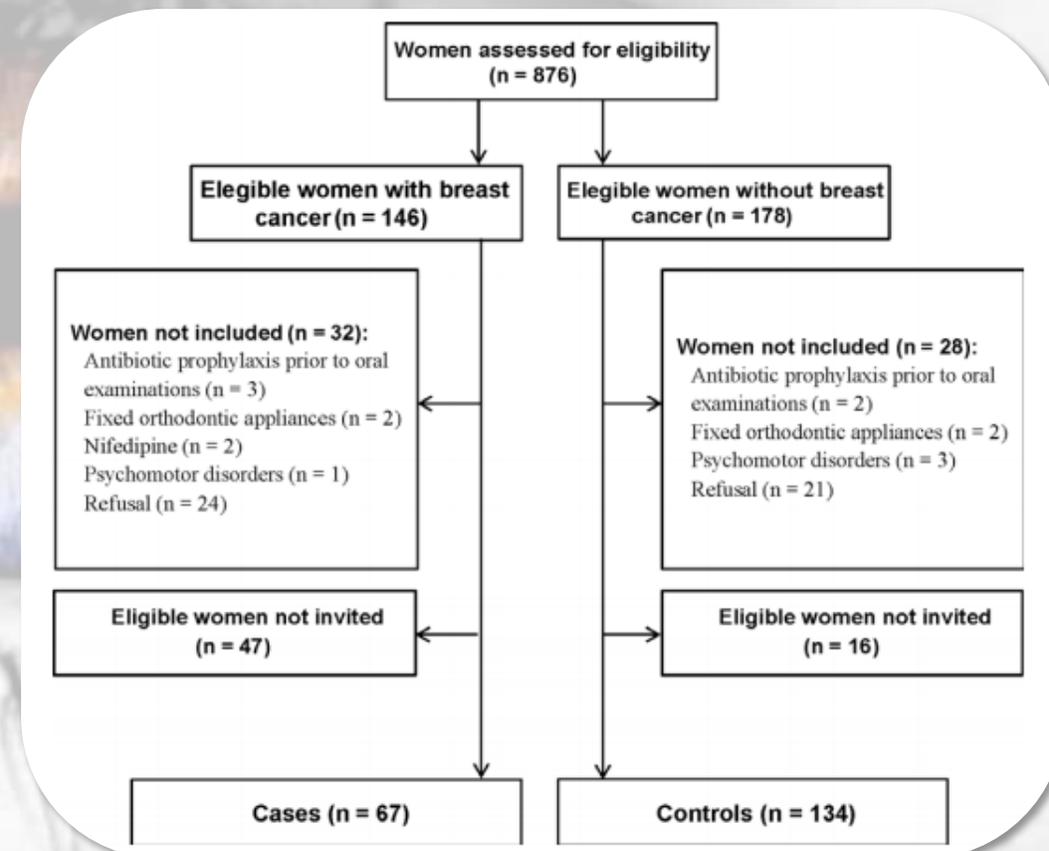
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PMCID: PMC6203496

Published online 2018 Oct 12. doi: [10.1097/MD.00000000000012490](https://doi.org/10.1097/MD.00000000000012490)

PMID: [30313038](https://pubmed.ncbi.nlm.nih.gov/30313038/)

### Oral health condition and occurrence of depression in the elderly

Katarzyna Skośkiewicz-Malinowska, PhD,<sup>a,\*</sup> Barbara Malicka, PhD,<sup>a</sup> Marek Ziętek, PhD,<sup>b</sup> and Urszula Kaczmarek, PhD<sup>a</sup>

Monitoring Editor: Ryan Richard Ruff.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6203496/pdf>

**Table 1**

#### Sociodemographic characteristic of the subjects.

Parameters	% (n)	M ± SD
Age (years)		74.4 ± 7.4
Gender:		
male	36.0 (180)	
female	64.0 (320)	
Living with		
alone	38.0 (190)	
with other people	62.0 (310)	
Living condition		
home without help	90.8 (454)	
home with help or residence	9.2 (46)	
Net income per household/month		
low (<1500 PLN)	25.6 (128)	
middle (1501–3000 PLN)	45.2 (226)	
high (>3000 PLN)	27.4 (137)	
no answer	0.8 (9)	
Education level		
low	16.2 (81)	
middle	51.0 (255)	
high	32.8 (164)	

M = mean, PLN = Polish zloty, SD = standard deviation.

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### ESTUDO COORTE



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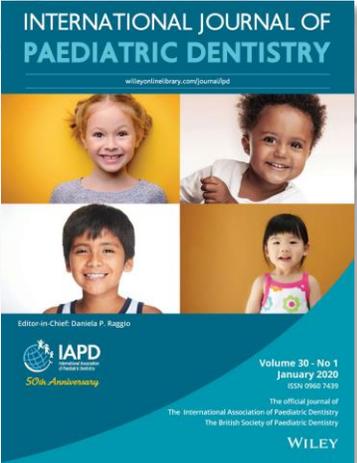
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	Controls (n = 98)	Cases (n = 98)	P-value
<b>Oral hygiene</b>			
Satisfactory	72 (74.2)	25 (25.8)	
Unsatisfactory	22 (23.7)	71 (76.3)	.771
<b>Place of residence</b>			
Urban area	67 (58.3)	48 (41.7)	
Rural area	31 (38.3)	50 (61.7)	.071
<b>Mother's schooling</b>			
<8 years	63 (49.6)	64 (50.4)	
≥8 years	32 (52.5)	29 (47.5)	.001
<b>Household income<sup>3</sup></b>			
≥2 times the minimum salary	32 (65.3)	17 (34.7)	
<2 times the minimum salary	65 (44.5)	81 (55.5)	<.001
<b>DED</b>			
Absent	75 (55.6)	60 (50.4)	
Present	23 (37.7)	38 (62.3)	<.001
<b>Diffuse opacity</b>			
Absent	84 (52.2)	77 (47.8)	
Present	14 (40.0)	21 (60.0)	<.001
<b>Demarcated opacity</b>			
Absent	89 (54.9)	73 (45.1)	
Present	9 (26.5)	25 (73.5)	<.001
<b>Hypoplasia</b>			
Absent	94 (50.5)	92 (49.5)	
Present	4 (40.0)	6 (60.0)	<.001

Note: McNemar's test (*P* < .05).  
 Abbreviation: DED, developmental enamel defects.

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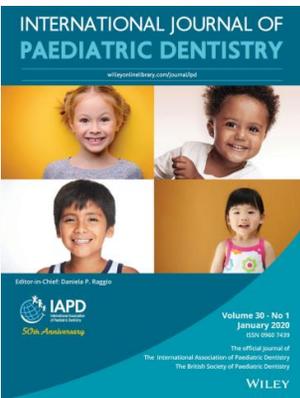
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**VOLTAR PARA RESULTADOS !**

**TABLE 1** Difference in distribution of socioeconomic factors, DED and ECC between controls and cases

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<b>Hypoplasia</b>			
Absent	94 (50.5)	92 (49.5)	
Present	4 (40.0)	6 (60.0)	<.001

Note: McNemar's test ( $P < .05$ ).

Abbreviation: DED, developmental enamel defects.



**TABLE 2** Adjusted logistic regression model for independent DED, household income in children with ECC

Variable	Unadjusted OR (95% CI)	P-value	Adjusted OR (95% CI)	P-value
<b>DED</b>				
Absent	1.0		1.0	
Present	2.06 (1.11-3.83)	.022	1.94 (1.03-3.65)	.038
<b>Household income</b>				
≥2 times the minimum salary	1.0		1.0	
<2 times the minimum salary	2.34 (1.19-4.59)	.013	2.24 (1.13-4.43)	.020

Note: Significance:  $P < .05$ .

Abbreviations: CI, confidence interval; OR, odds ratio.

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## VOCÊ PRECISA DE ORIENTAÇÕES SOBRE...



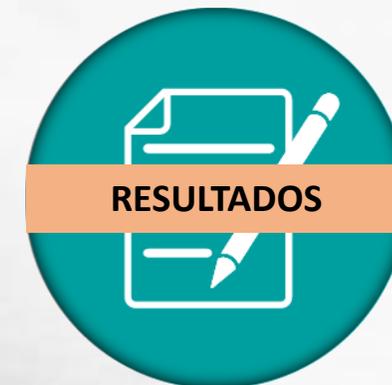
- ✓ Ausência de outras análises
- ✓ Sugestões
- ✓ Composição salivar
- ✓ Fluxo salivar
- ✓ Uso de dispositivos à base de fluorescência (semiquantitativos) - DIAGNOdent (KaVo Bireach, Alemanha)

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RESULTADOS !**

**OUTRO EXEMPLO!**

# TUTORIAL DIRETRIZ STROBE

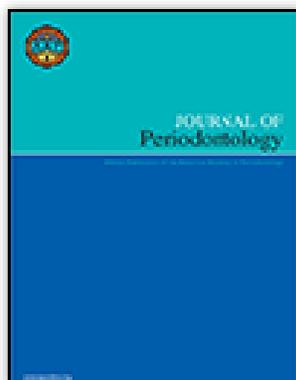
## VOCÊ PRECISA DE ORIENTAÇÕES SOBRE...



J Periodontol • June 2014

### Does Periodontal Infection Have an Effect on Severe Asthma in Adults?

Isaac Suzart Gomes-Filho,\* Kaliane Rocha Soledade-Marques,\* Simone Seixas da Cruz,† Johelle de Santana Passos-Soares,\* Soraya Castro Trindade,\* Adelmir Souza-Machado,‡ Izabel Regina Fischer Rubira-Bullen,§ Eneida de Moraes Marcílio Cerqueira,|| Maurício Lima Barreto,¶ Teresinha Costa de Santana,\* and Julita Maria Freitas Coelho||



Volume 85, Issue 6

Table 4.

Other Characteristics Related to Oral Condition Between Case (n = 113) and Control (n = 107) Groups

Characteristic	Control			Cases			P
	Mean	Median	Min/max	Mean	Median	Min/max	
Decayed teeth	1.85	1	0/14	2.56	2	0/15	0.15
Missing teeth	9.00	8	0/28	11.65	10	0/27	0.02
Filled teeth	3.53	3	0/21	3.46	2	0/18	0.87
DMFT index	14.66	16	0/30	18.13	19	0/31	0.001
PI (%)	31.64	22.3	2.2/100	54.14	56.2	5.1/100	<0.001
BOP (%)	14.69	7.7	0/100	28.43	24.4	0/100	<0.001

VOLTAR PARA RESULTADOS !

# TUTORIAL DIRETRIZ STROBE

## VOCÊ PRECISA DE ORIENTAÇÕES SOBRE...

INTERNATIONAL JOURNAL OF  
PAEDIATRIC DENTISTRY

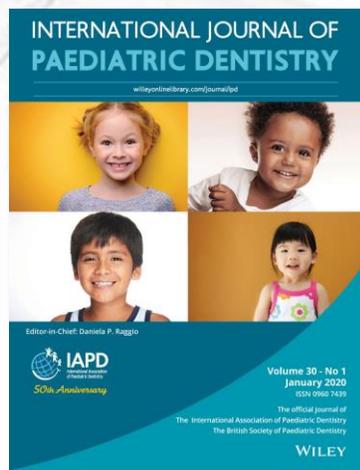
ORIGINAL ARTICLE

Developmental enamel defects are associated with early childhood caries: Case-control study

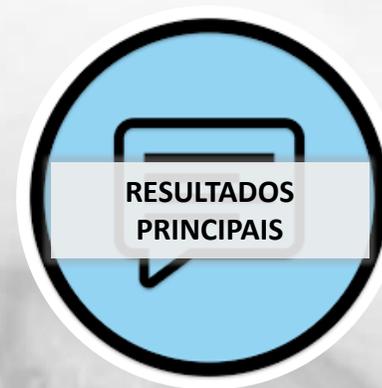
Patrícia Corrêa-Faria ✉, Suzane Paixão-Gonçalves, Maria Letícia Ramos-Jorge, Saul Martins Paiva, Isabela Almeida Pordeus

First published: 28 August 2019 | <https://doi.org/10.1111/ipd.12574> | Citations: 2

**Volume 30, Issue 1**  
**January 2020**  
**Pages 11-17**



**VOLTAR PARA  
DISCUSSÃO !**



## 4 | DISCUSSION

This study evaluated the association between DED and ECC in pre-school children using a case-control design nested in a population-based cross-sectional study. Children with DED in the primary dentition had a greater chance of exhibiting ECC, which is in agreement with findings described in the literature.<sup>6-9</sup>

This association may be explained by the characteristics of teeth affected by DED, such as pits, fissures and areas without enamel, which facilitate the build-up of bacterial plaque and the consequent occurrence of ECC.<sup>6,8</sup> Moreover, the greater susceptibility to ECC is related to the large number of streptococci of the mutans group, which are associated with the onset of caries.<sup>20</sup>

# TUTORIAL DIRETRIZ STROBE

## VOCÊ PRECISA DE ORIENTAÇÕES SOBRE...

INTERNATIONAL JOURNAL OF  
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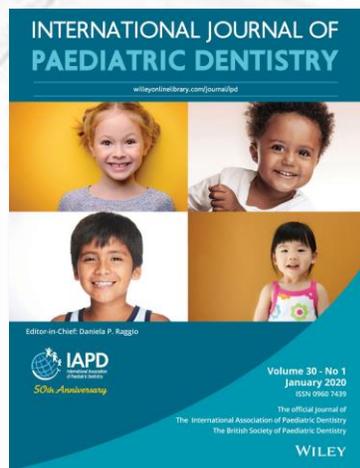
### Developmental enamel defects are associated with early childhood caries: Case-control study

Patrícia Corrêa-Faria ✉, Suzane Paixão-Gonçalves, Maria Letícia Ramos-Jorge, Saul Martins Paiva, Isabela Almeida Pordeus

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**VOLTAR PARA  
DISCUSSÃO !**



Similar results also shown in another case-control study conducted with pre-term infants in Germany.<sup>15</sup> Although the study design was similar, the difference in the characteristics of the samples limits the comparisons. Pre-term children are at a greater risk of caries due to the impaired immune response and consequently greater susceptibility to cariogenic microbiota.<sup>21</sup> Moreover, this population is at greater risk of DDE, which explains the association between DED and ECC and demonstrates the impossibility of comparing pre-term infants to other children. Moreover, the criteria used to diagnose dental caries were different. The dmft index recommended by the WHO<sup>18</sup> was used in the present investigation, whereas the International Caries Detection and Assessment System (ICDAS II)<sup>22</sup> was used in the study cited.

Moreover, differences are evident in the diagnosis of ECC. In this study, ECC was diagnosed based on the WHO<sup>18</sup> criteria and dichotomized as present or absent in the statistical analysis based only on cavitated lesions. A previous study involving Brazilian children also considered non-cavitated active lesions.<sup>8</sup> Thus, one of the limitations of this study was the possibility of underestimating the frequency of ECC, since teeth with white spots were categorized as sound.

VOCÊ PRECISA DE  
ORIENTAÇÕES SOBRE...



## Risk factors for tooth loss in adults: A population-based prospective cohort study

Manoelito Ferreira Silva Junior , Marília Jesus Batista , Maria da Luz Rosário de Sousa  

Published: July 22, 2019 • <https://doi.org/10.1371/journal.pone.0219240>



service demand determined tooth loss. It should be observed that the risk factors found in our study are modifiable and demonstrate a need for enhancement of health promotion and prevention of oral diseases in public health, especially for dental caries, a disease that can be prevented. In present study socio-economic conditions were not risk factors for tooth loss, however worse socio-economic conditions interferes at risk factors identified in this present study; for example, dental caries and seeking dental service. Thus, strategies aimed at reducing tooth loss need to reduce the experience of oral diseases and their sequelae, especially dental caries. Moreover, different mechanisms need to be addressed in public health policies to combat inequalities in oral health, for example; creating policies that also benefit older age groups and encourage the regular use of oral health services, where health promotion practices are valued as much as assistance to those with this condition.

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DISCUSSÃO !

## VOCÊ PRECISA DE ORIENTAÇÕES SOBRE...

> *Caries Res.* 2018;52(3):212-219. doi: 10.1159/000486141. Epub 2018 Jan 23.

### Do Signs of Attention-Deficit/Hyperactivity Disorder Increase the Odds of Dental Caries? A Case-Control Study

Isabella Mota-Veloso <sup>1</sup>, Isabela Almeida Pordeus <sup>1</sup>, Márcio Alexandre Homem <sup>1</sup>, Joana Ramos-Jorge <sup>1</sup>, Fernanda Oliveira-Ferreira <sup>2</sup>, Maria Letícia Ramos-Jorge <sup>3</sup>, Saul Martins Paiva <sup>1</sup>

Affiliations + expand

PMID: 29393165 DOI: 10.1159/000486141

<https://pubmed.ncbi.nlm.nih.gov/29393165/>

**VOLTAR PARA  
DISCUSSÃO !**



This association has not been confirmed in other studies [Blomqvist et al., 2007; Carlsson et al., 2013; Hidas et al., 2013; Lorber et al., 2014]. Lorber et al. [2014] evaluated the influence of genetic and environmental factors on the occurrence of dental caries in 230 pairs of twins aged 3–8 years from families with a low socioeconomic level in Brazil. The authors point out that this characteristic of the sample limits the external validity of the results. In a study conducted in Israel, Hidas et al. [2013] evaluated individuals aged 5–18 years allocated to 3 groups: non-medicated individuals with ADHD, medicated individuals with ADHD, and individuals without ADHD. The authors found no association between ADHD and dental caries, but the individuals with ADHD had higher indices of dental plaque and poor oral hygiene, indicating that these children display less efficient brushing. Blomqvist et al. [2007] reported similar findings.

VOCÊ PRECISA DE  
ORIENTAÇÕES SOBRE...



## Risk factors for tooth loss in adults: A population-based prospective cohort study

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### Acknowledgments

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FINANCIAMENTO !

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## VOCÊ PRECISA DE ORIENTAÇÕES SOBRE...



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ELSEVIER



Dental caries is associated with lower respiratory tract infections: A population-based cohort study

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<https://pubmed.ncbi.nlm.nih.gov>

### 2.5. Statistical analyses

We estimated the association between number of FT and occurrence of LRTIs, while applying both continuous number of FT with interquartile range (IQR) increase and categorical number of FT. Categorizing was based on the FT distribution among the study subjects (Fig. 1). The FT groups were zero, 1 to 3 (median of FT number), 4 to 9,

and 10 or more (5% of population) filled teeth. We used Poisson regression to estimate risk ratios (RR) and 95% confidence intervals (CI) for LRTIs. We fitted multivariable regression models to adjust for potential confounding and conducted stratified analyses according to family SES, smoking and early LRTIs to elaborate potential effect modification of the relation between FT and LRTIs. We conducted the analyses with SAS version 9.4.

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*Subsídios para a comunicação de estudos observacionais*