



## ORIGINAL ARTICLE

# Dental pain and associated factors in Brazilian preschoolers



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### PALAVRAS-CHAVE

Dor;  
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Cáries dentárias;  
Saúde bucal

### Abstract

**Objective:** To describe the prevalence of dental pain in Brazilian preschoolers, as well as its associated factors, considering a representative sample of that population group in Brazil.

**Methods:** Cross-sectional study that used the analytical data from national oral health survey (SB Brazil) carried out in 2010. A representative sample of Brazilian preschoolers aged 5 years was considered. Interviews were carried out (answered by parents/tutors), as well as clinical examinations in children. Descriptive, bivariate and multiple analyzes were performed, described in odds ratios and 95% confidence interval (OR/95%CI).

**Results:** 7280 preschoolers were included. Of these, 1520 (21.1%) had dental pain in the last 6 months. The chance of the occurrence of dental pain was higher among those who used dental services (1.51/1.02–2.23), with tooth decay (3.08/2.08–4.56), that self-perceived the need for dental treatment (3.96/2.48–6.34), whose parents reported dissatisfaction by children with their teeth and mouth (1.47/1.04–2.10) and those who reported impact of oral problems on quality of life (5.76/3.90–8.49).

**Conclusions:** The prevalence of dental pain among Brazilian preschool children was relatively high, being associated with the use of dental services and the normative and subjective oral health status.

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### Dor dentária e fatores associados em pré-escolares brasileiros

### Resumo

**Objetivo:** Descrever a prevalência da dor dentária em pré-escolares brasileiros, assim como seus fatores associados, considerando uma amostra representativa desse contingente populacional no Brasil.

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**Métodos:** Estudo transversal, analítico, que usou os dados do Inquérito Nacional de Saúde Bucal (SB Brasil) feito em 2010. Considerou-se uma amostra representativa de pré-escolares com 5 anos. Foram feitas entrevistas (respondidas pelos responsáveis) e exames clínicos nas crianças. Conduziram-se análises descritivas, bivariadas e múltiplas, descritas em *odds ratio* e intervalo de confiança de 95% (OR/IC95%).

**Resultados:** Foram incluídos 7.280 pré-escolares. Desses, 1.520 (21,1%) tiveram dor dentária nos últimos 6 meses. A chance da ocorrência de dor dentária foi maior entre aqueles que usaram serviços odontológicos (1,51/1,02-2,23), com cárie dentária (3,08/2,08-4,56), perceberam a necessidade de tratamento odontológico (3,96/2,48-6,34), os que os pais relatavam insatisfação por parte das crianças com seus dentes e sua boca (1,47/1,04-2,10) e os que relataram impacto dos problemas bucais na qualidade de vida (5,76/3,90-8,49).

**Conclusões:** A prevalência da dor dentária entre pré-escolares brasileiros foi relativamente alta e associada ao uso de serviços odontológicos e às condições normativas e subjetivas de saúde bucal.

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## Introduction

Dental pain has been considered the most common symptom or consequence of the presence of oral diseases, such as dental caries and gum disease.<sup>1-3</sup> The International Association for the Study of Pain (IASP) defines pain as an unpleasant sensory and emotional experience caused by tissue damage.<sup>4</sup> Among the types of orofacial pain, those of dental origin have been reported as the most frequent,<sup>5</sup> may affect social interaction, daily activities,<sup>6</sup> and may have a negative impact on quality of life.<sup>7,8</sup> It should be noted that the perception of pain may be influenced by knowledge and beliefs of the individuals, as well as by the cultural and social environment in which they live.<sup>9,10</sup> Different factors have been associated with the presence and perception of dental pain, such as low socioeconomic status,<sup>9</sup> dental caries,<sup>11</sup> food-related difficulties, and sleep disorders.<sup>6</sup> Moreover, its occurrence has been identified as one of the main reasons for seeking dental care.<sup>2,9</sup>

The prevalence of dental pain varies widely among different studies and age groups. International studies have addressed the prevalence of episodes of dental pain and observed results ranging from 9% in Japan<sup>12</sup> (11–15 years) to 40% in districts of Manchester, England (up to 12 years).<sup>13</sup> In Brazil, the prevalence is also variable, with rates between 11% and 39% (subjects aged 5–60 years).<sup>1,5,11,14–16</sup> Among the population groups investigated regarding this issue are children, especially those at pre-school age.<sup>8,15</sup>

In Brazil, the oral health status of preschoolers is worrisome. Despite the modest improvement observed in the last two epidemiological population surveys, conducted in 2002/2003<sup>17</sup> and 2010,<sup>18</sup> such as the approximately 6% increase in the number of children under 5 years free of caries, this population group is still affected by a high prevalence of oral diseases, such as dental caries and malocclusion.<sup>18</sup> This may result in high prevalence of dental pain and, consequently, a negative impact on their daily life.

However, population-based studies with a representative sample of Brazilian preschoolers addressing dental pain

are scarce. Therefore, this study aimed to describe the prevalence of dental pain in Brazilian preschoolers and its associated factors.

## Method

This was a cross-sectional study that used the database of the National Survey on Oral Health Conditions (SB Brasil), conducted by the Brazilian Ministry of Health in 2010.<sup>18</sup> Following the criteria proposed by the World Health Organization in 1997,<sup>19</sup> a representative sample of the population in the index age ranges was interviewed and examined at their homes regarding their oral health, demographic, and socioeconomic data, as well as use of dental services and subjective issues of oral health. This study considered the sample of preschool children, which in the SB Brazil 2010 included only children aged 5 years.

Residents of 177 cities were interviewed and assessed, including the 27 capitals of the five geographical regions (North, Northeast, Mid-West, Southeast, and South). Subjects were selected by multi-stage probability cluster sampling, with probability proportional to size and considering a design effect (deff) equal to 2. The 30 municipalities in each region and the 30 census sectors for capitals and the Federal District were drawn by the technique of probability proportional to size.<sup>20</sup>

The tests and interviews were performed by previously trained dentists and calibrated by the consensus technique; the minimum acceptable kappa value for each examiner, age group, and studied injury was 0.65. Interviews were conducted with the aid of a handheld computer (Personal Digital Assistant).<sup>20</sup>

In the present study, a database slice was used; the analysis included the preschoolers who answered the question about the presence of dental pain.

The dependent variable – dental pain – was assessed by the question: “in the last six months, did you have toothache?” (No/Yes). Since this was a sample of 5-year-old children, this answer was given by their parents/guardians.

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