Dental caries in schoolchildren: influence of inattention, hyperactivity and executive functions

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Abstract

Attention-deficit/hyperactivity disorder (ADHD) is characterized by inappropriate levels of hyperactivity, impulsivity, and/or inattention. Individuals with ADHD may present limitations with regard to executive functions and performing activities that involve planning and/or attention/concentration. The aim of the study was to investigate the association between dental caries and signs of ADHD in a representative sample of schoolchildren. A representative sample of 851 schoolchildren aged seven to 12 years was randomly selected from public and private schools. Data acquisition involved a clinical dental examination for cavitated permanent and deciduous teeth using the DMFT/dmft indices. Neuropsychological evaluations, including the assessment of intelligence (Raven's Colored Progressive Matrix Test) and executive functions (Corsi Tapping Blocks tests and Digit Span test) were also performed. Parents/caregivers and teachers answered the SNAP-IV Questionnaire for the investigation of signs of inattention and hyperactivity in the family and school environment. Parents/caregivers also answered questionnaires addressing socioeconomic and socio-demographic characteristics. Descriptive analysis of the variables and Poisson regression with robust variance were performed. Parental reports of signs of inattention (PR: 1.28; p < 0.05) and hyperactivity (PR: 1.15; p < 0.05) were associated with a greater occurrence of caries. A better performance on the backward order of the Corsi Tapping Blocks tests (PR: 0.94; p < 0.05) and higher level of mother's schooling were associated with a lower frequency of caries. A better performance on executive function tasks was a protective factor against dental caries, whereas children considered inattentive and/or hyperactive by their parents had a higher prevalence rate of dental caries.