

Frequency of Caries in Children Taking Prescribed Medications for Attention-Deficit Hyperactivity Disorder

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Introduction

Attention-Deficit Hyperactivity Disorder (ADHD) is a common developmental disorder in the United States. An estimated 4.4 million children age 4-17 are diagnosed with ADHD, and over half of these children are prescribed medication as part of a treatment regimen. Stimulants are seen as an effective first-line treatment for ADHD, and are often methamphetamine-based. Conclusive evidence exhibits non-pharmaceutical methamphetamine as extremely cariogenic (cavity-causing).

Children with ADHD have been shown to exhibit poorer oral health behavior than children without ADHD, characterized by less frequent brushing. This population also shows a higher prevalence of bruxism (grinding) behavior than children without ADHD. Studies have also indicated a significantly higher DMFS (decayed, missing, or filled surfaces) and higher DS (decayed surfaces) scores in children with ADHD than without. Recent studies that report higher prevalence of caries (cavities) in children with ADHD fail to differentiate between medicated and unmedicated status.

The oral manifestations of stimulants prescribed to children with ADHD are not completely known. The Center for Disease Control has also taken interest in this topic, calling for further study regarding stimulant consumption in children with ADHD because of substantial health risks that might be associated. This study aimed at investigating the connection between stimulant intake in children with ADHD and oral manifestations of drug use.

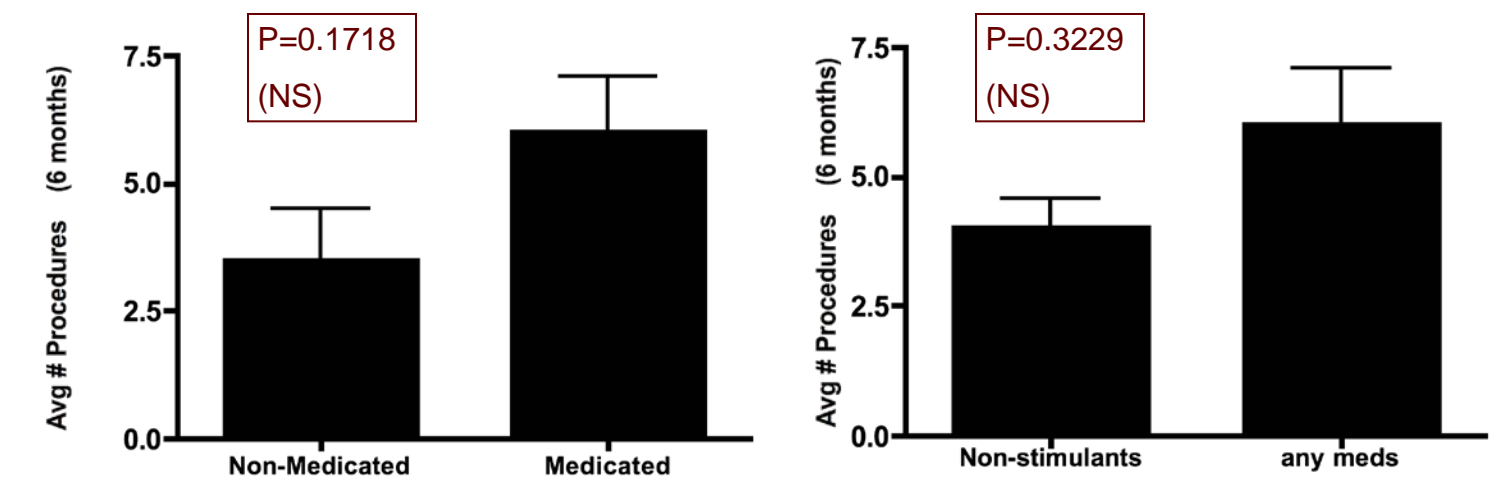


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Methods

- Charts at the University of Minnesota Pediatric Dental Clinic were reviewed for frequency of caries over a 6-month interval
- All charts selected for review indicated diagnosis of ADHD
- Groups compared:
 - Medicated vs. Non-Medicated
 - Any Meds vs. Non-Stimulants
 - Any Meds vs. Stimulants
 - Stimulants vs. Non-Stimulants

Results & Discussion



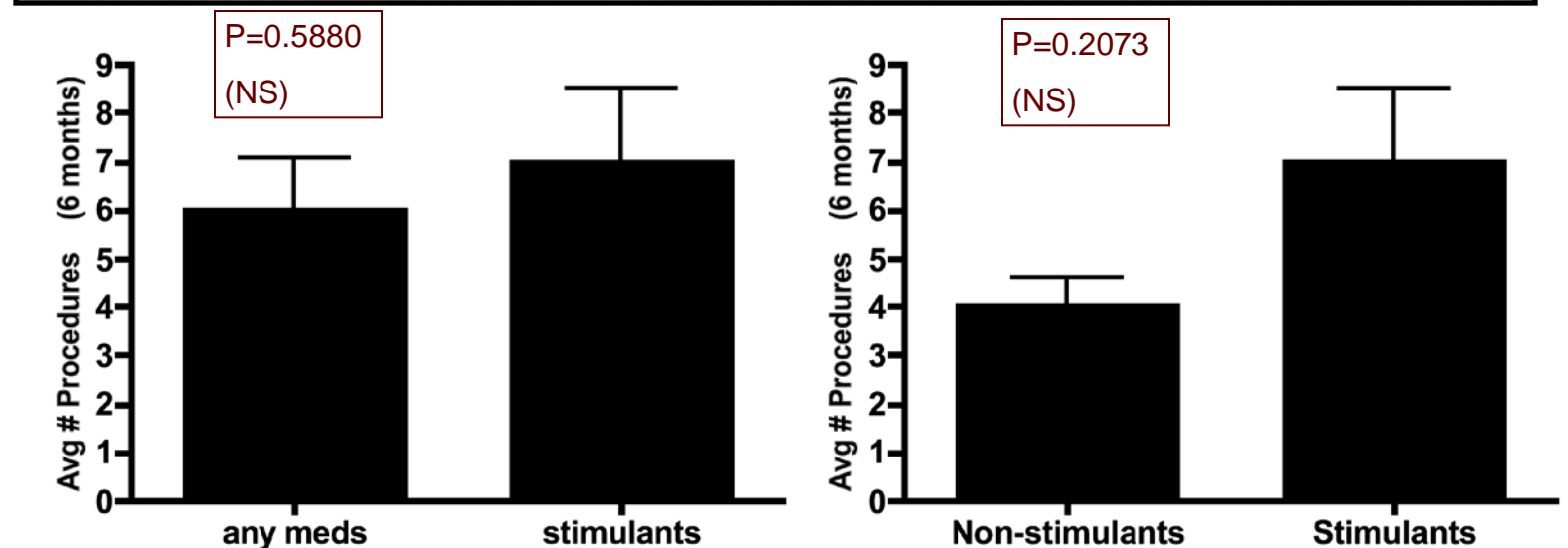
- Caries Frequency (CF) was measured by the number of documented fillings (composite or amalgam), crowns, or extractions due to decay.
- 18 total patients were included in the study
- CF was higher in children who were taking medication for ADHD
- CF was higher in children who were taking stimulant medication as opposed to non-stimulant medication for ADHD

Points for Discussion:

- Sample size was small due to time constraints and other factors
- Controlling for factors such as socioeconomic status, fluoride treatment history, diet, and other medical problems and medications was difficult

Conclusion:

Although caries frequency was observed to be higher in children who were medicated with stimulant medication, further study will be helpful in determining whether or not the relationships between tooth decay and stimulant medication for ADHD are valid.



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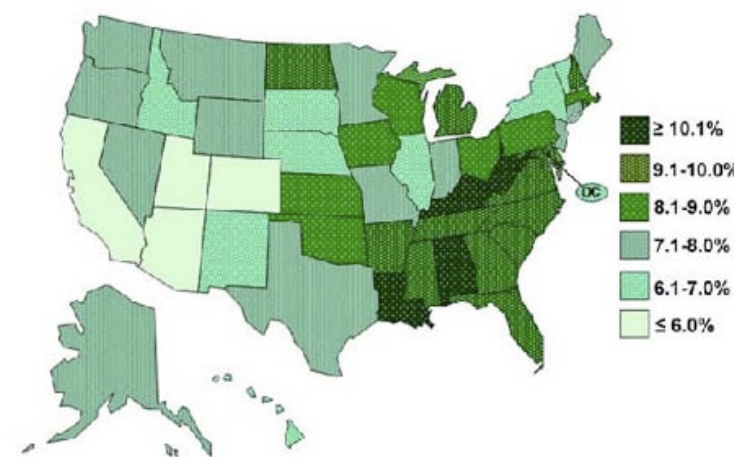
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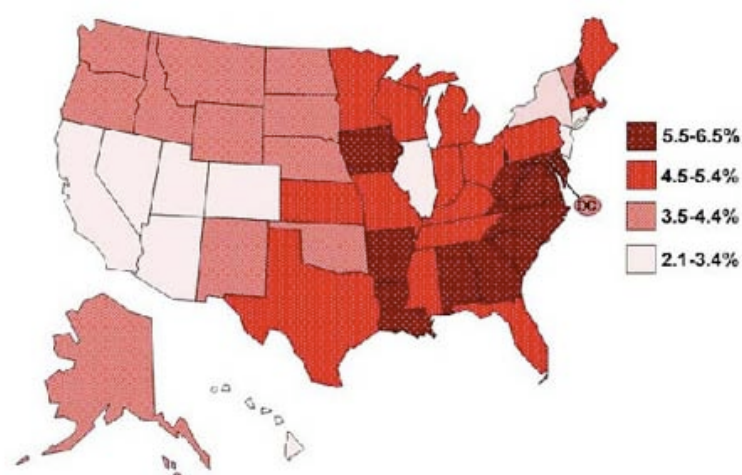
Fig. 1:
Approximately half of all 4.4 million children diagnosed with ADHD in the United States are medicated.

Images used from the Center for Disease Control & Prevention

Percent of Youth 4-17 ever diagnosed with Attention-Deficit/Hyperactivity Disorder: National Survey of Children's Health, 2003



Percent of Youth 4-17 ever diagnosed and currently medicated for Attention-Deficit/Hyperactivity Disorder: National Survey of Children's Health, 2003



Broader Impacts

As a common disorder in the United States, ADHD is often observed in children during dental visits. Dental professionals have a unique opportunity to evaluate this population for predisposal to caries and other oral problems by evaluating patients' health status, medical problems, and prescribed medications. For example, extra precautions are taken when using local anesthetics and vasoconstrictors on patients who abuse methamphetamines. If significant evidence exists that links children with ADHD who take stimulants to methamphetamine abusers in terms of oral manifestations of drug use, information may be utilized increase the quality of care in both medical and dental settings. Dental professionals have the opportunity to educate parents about risks associated with medication use. This may result in better treatment plans for these children, including more frequent hygiene examinations and more home care possibilities such as fluoride rinses and dietary intervention.



Rampant Caries (adult mouth)

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