Pediatric Residents Can Provide Oral Health Screening and Treatment

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COMMUNITY PEDIATRICS

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Source: *Grant JS, Roberts MW, Brown WD, et al. Integrating dental screening and fluoride varnish application into a pediatric residency outpatient program: clinical and financial implications. J Clin Pediatr Dent. 2007;31:177-180.*

Many US children have difficulty accessing dental care because of a shortage of dentists, uneven distribution of dentists within states, and dentists' low rate of participation in Medicaid.[1,2] In North Carolina, for example, 25% of children entering kindergarten have untreated dental disease, a burden for the child, family, and health care system.[3] This study from the University of North Carolina sought to evaluate the potential for pediatric residents to improve access to dental care, particularly for children enrolled in Medicaid, by providing preventive dental care in continuity clinic.

In 2000, a physician-based Medicaid-funded "Into the Mouths of Babes Varnish and Screening Program" (IMB) was introduced.[4] To be eligible for this program, resident physicians participate in a required training session, and then are reimbursed by Medicaid for providing oral screening, fluoride varnish application, and parent counseling for children age three years and younger. The current study was a retrospective chart audit of children ages six to 36 months who were covered by Medicaid and who presented to the pediatric resident continuity practice at North Carolina Children's Hospital from December 2001 to July 2004. The information collected included patient demographics, oral conditions, dental caries risk assessment, caregiver role in oral health prevention and practices, preventive services provided, billing and reimbursement data, and dental referrals.

Of a total of 1,818 eligible children presenting to the continuity clinic during the study period, 665 children received at least one oral screening. Since approximately 50% of all children seen in the clinic were Medicaid-eligible, the 665 children receiving at least one oral screening within this program represented about 73% (665/~909) of the children on Medicaid. The mean age of the children receiving preventive dental services was 15.2 months. Of the 665 children receiving preventive dental services, 29 (4.4%) had at least one carious tooth and 94 (14.1%) were referred to a dentist. Risk factors for the development of dental caries in these children included early tooth eruption, poor parental health, drinking non-fluoridated water, enamel defects, frequent snacking, and going to bed with a bottle. After bivariate statistical analysis, authors found that older children and those snacking more than three times a day were significantly more likely to experience higher levels of dental caries.

During the study period the IMB program produced over $51,000 in revenue including Medicaid reimbursement for a comprehensive oral examination, topical fluoride varnish, and provision of oral hygiene instructions to the caregiver. Cost of labor and materials was just over $4,900. Material costs were $3.56 per IMB encounter; labor costs were $1.02 per IMB encounter (based on resident salary costs). The authors conclude that introducing preventive oral health into an academic setting provides children with additional access to oral health preventive services and proves financially feasible when those services are covered by Medicaid.

Commentary by Natasha Sriraman, MD, FAAP

Private Practice, Yonkers, NY

Dr. Sriraman has disclosed no financial relationship relevant to this commentary. This commentary does not contain a discussion of a commercial product/device. This commentary does not contain a discussion of an unapproved/investigative use of a commercial product/device.

Physicians often lack the knowledge and training necessary to deliver effective early preventive dental care to their patients. The importance of training pediatricians to integrate key components of dental health into their practices was addressed by the Surgeon General's Report on Children's Oral Health in 2000.[5] The University of North Carolina recognized the importance of designing an oral health curriculum for its pediatric residents in the 1990s, as it became increasingly evident that there was a severe lack of access to dental care. In a separate article, the authors found that pediatric residents' knowledge regarding oral health practice and intervention increased following a training session and that residents easily integrated oral health practice components within the well-child visit.[6] The current report sought to establish whether incorporating dental prevention into continuity clinic visits for patients on Medicaid would improve access to preventive dental care and prove cost-effective for the clinic. Due to the retrospective nature of the study, the data regarding dental caries risk and prevalence may have been underestimated, since a comprehensive dental exam was not an integral part of the pediatric resident evaluation of all continuity clinic patients. While the study made some attempt to account for clinic costs and reimbursement, a more comprehensive analysis, which included overall cost of the program to the state, cost savings from dental caries prevented, and an assessment of indirect and opportunity costs (caregiver time away from work, child's time away from school) would be necessary to establish the overall cost-effectiveness of the program.

This study highlights that it is financially feasible to introduce oral health screening and topical fluoride varnish application into a pediatric residency continuity clinic for those children covered by Medicaid where state funding exists for this purpose. Perhaps

more importantly, this study shows that future pediatricians can readily acquire the skills needed to address basic oral health issues and provide preventive treatment. As the dental public health crisis continues to grow, pediatricians can help fill the gap.

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ADOLESCENT HEALTH

Anabolic Steroid Use by Female High School Students

Source: *Elliot DL, Cheong J, Moe EL, et al. Cross-sectional study of female students reporting anabolic steroid use. Arch Pediatr Adolesc Med. 2007;161:572-577; doi:10.1001/archpedi.131.6.572*

The prevalence of anabolic steroid use among adolescent girls increased during the 1990s,[1,2] but little is known about the context in which girls use these drugs. Researchers from Oregon Health & Science University and the University of Pittsburgh analyzed data from the 2003 CDC Youth Risk Behavior Survey (YRBS) to investigate the characteristics of girls who reported use of anabolic steroids. The YRBS is a nationally representative school-based survey of US students in grades nine to 12, conducted every two years since 1991 and administered to students who are in school and have parental permission to participate. Students respond anonymously to questions about demographic factors and health-risk behaviors related to nutrition, exercise, safety, substance use, sexuality, and mental health. Data for this study were obtained from 313 girls who reported using steroid pills or shots without a doctor's prescription one or more times (users) and 7,134 girls who reported never using steroids (nonusers).

Prior or ongoing anabolic steroid use was reported by 5.3% of female high school girls in the survey. Compared to girls in the 12th grade, girls in the 9th grade were significantly more likely to report prior or ongoing anabolic steroid use. Self-report of anabolic steroid use was significantly less likely among those who participated in one or more team sports than among those who did not participate. When controlling for race/ethnicity, grade level, and sports participation, self-reported anabolic steroid users were more likely than nonusers to report a history of: sexual intercourse; pregnancy; alcohol, tobacco, marijuana, or cocaine use during the past 30 days; drinking and driving during the past 30 days; being in a fight during the past year; carrying a weapon during the past 30 days; using extreme measures to lose weight during the past 30 days; feeling helpless; or attempting suicide in the past year. Steroid users who participated in team sports differed in only two of these risk categories: they were more likely to report use of seatbelts when driving and use of condoms and hormonal contraceptives if sexually active than were anabolic steroid users not involved in team sports.

The authors conclude that adolescent female users of anabolic steroids have a marked increase in other health-risking behaviors, especially use of other illicit substances. While females involved in team-based athletics are less likely to report use of anabolic steroids, female adolescent athletes who do use steroids are no less likely than nonusing athletes to report other unhealthy behaviors. The authors note that due to the cross-sectional nature of this study, they cannot define causality or temporal sequences of various unhealthy behaviors. They were also limited to the content of the YRBS in evaluating possible associations with steroid use. Nevertheless, they believe that more attention must be paid to high-risk adolescent girls, and that anabolic steroid use is one marker for these high-risk girls.

Commentary by Richard R. Brookman, MD, FAAP

Pediatrics, Virginia Commonwealth University, Richmond, VA

Dr. Brookman has disclosed no financial relationship relevant to this commentary. This commentary does not contain a discussion of a commercial product/device. This commentary does not contain a discussion of an unapproved/investigative use of a commercial product/device.

Anabolic steroids are among the many performance-enhancing substances whose use has become increasingly recognized in both amateur and professional sports. These drugs are altered testosterone derivatives that increase lean body mass and prevent tissue degradation.[3-5] They have been placed under Schedule III of the Controlled Substances Act since 1990. Use of steroids is most common in athletes involved in weight training, bodybuilding, football, and endurance sports, including track, cycling, and swimming.[3] The numerous medical and behavioral complications include acne, striae, balding, hypertension, mood swings, aggressiveness, and lipid abnormalities.[3-5] Knowledge of these complications may partly explain the decline in reported steroid use by adolescents in the past few years. In fact, in the 2005 YRBS, 3.2% of female and 4% of male high school students reported steroid use compared with 5.3% of females and 6.1% of males in 2003.[1] Monitoring the Future, an annual national survey of substance use by students in grades 8, 10, and 12, also showed a decline in use from 2002 to 2005 for all grade levels studied.[2] Elliot et al demonstrate the importance of considering anabolic steroid use in adolescent girls, as well as boys and in nonathletes, as well as athletes. Girls who report use of steroids should be questioned and counseled about the full spectrum of health-risking behaviors. Girls who report any health-risking behaviors should be asked about steroid use, whether or not they participate in athletics. Index of suspicion for steroid use should be highest in girls with severe acne, virilization, menstrual disturbances, extreme mood swings, and/or aggressive behavior. In addition, withdrawal from steroid use should be suspected in girls presenting with unexplained lethargy, depression, and/or loss of muscle mass.

Editors' Note

We have become so inured to reports of steroid use by athletes, it was only on rereading this study that we "got it:" 5% of US high school girls report anabolic steroid use! That qualifies as a real shocker and raises myriad troubling questions about contemporary American society: Why? To enhance performance or appearance? What personal, peer, or parental pressures are they responding to? How do they get access to these drugs: from physicians, on the street? How did we get to this place and how do we begin to find our way back?

Attention must be paid. This is serious.

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