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Youth Tobacco Product Use in the United States

Noncigarette tobacco products are increasingly popular among youth, especially youth who smoke cigarettes. Although youth use of conventional cigarettes is on the decline, use of other tobacco products is rising and multiple product use may be an escalating trend.

More than twice as many youth in the United States currently use 2 or more tobacco products than cigarettes alone. Youth multiple product use is associated with increased nicotine dependence, raising concerns about the additive harms of noncigarette tobacco products.

Sodium and Sugar in Complementary Infant and Toddler Foods Sold in the United States

US children consume excessive amounts of sodium and substantial amounts of added sugars. Early life exposures to salt and sugar can set taste preferences and health trajectories.

A substantial proportion of toddler meals and other commercial foods meant for children age ≥ 12 months are of potential concern because of their high sodium content or presence of ≥ 1 added sugar.

Racial-Ethnic Disparities in Management and Outcomes Among Children With Type 1 Diabetes

Previous studies have demonstrated racial and ethnic differences in glycemic control even after adjustment for variables such as insulin dosage, diabetes duration, and socioeconomic status. It is controversial whether genetic, physiologic, cultural, socioeconomic, and/or provider-related factors underlie these disparities.

This study in a large, racially/ethnically diverse sample of children with type 1 diabetes demonstrates that racial disparities in insulin treatment methods and diabetes outcomes remain even after adjustment for socioeconomic status.

Medication-Related Emergency Department Visits in Pediatrics: a Prospective Observational Study

In adults, adverse drug events account for 5% to 25% of all hospital admissions and 12% of emergency department (ED) visits of which 50% to 70% are preventable. There remains a significant gap in our understanding of the magnitude and impact of medication-related ED visits in pediatrics.

This study is the largest and most rigorous study performed evaluating the impact of medication-related visits to the ED in pediatrics and provides important information regarding the magnitude of this problem in our health care system.

Noninvasive Ventilation Strategies for Early Treatment of RDS in Preterm Infants: An RCT

Noninvasive ventilation (NIV) reduced the need of intubation in preterm infants with RDS. However, randomized studies comparing nasal synchronized intermittent positive pressure ventilation and bilevel continuous positive airway pressure are still lacking.

The present study shows no differences in short-term outcomes between 2 different NIV strategies, nasal synchronized intermittent positive pressure ventilation and bilevel continuous positive airway pressure, in preterm infants for the initial treatment of RDS.

Mental Health of Extremely Low Birth Weight Survivors in Their 30s

Little is known about the mental health of extremely low birth weight survivors in their 30s. It is also unclear whether being born small for gestational age or being exposed to antenatal corticosteroids increases risk in this group.

In their 30s, extremely low birth weight survivors are less likely to have substance problems but are at elevated risk for other psychiatric disorders. Those born small for gestational age are at higher risk, but those exposed to antenatal corticosteroids are at the greatest risk of all.

The Great Sleep Recession: Changes in Sleep Duration Among US Adolescents, 1991–2012

Adequate sleep is critical for adolescent health. Available data suggest a historical downward trend in sleep behavior, but there has been no rigorous evaluation of recent US trends.

The proportion of adolescents who regularly obtain ≥ 7 hours of sleep is decreasing. Decreases in sleep exhibit period effects that are constant across adolescents according to gender, race, socioeconomic factors, and urbanicity. The gender gap in adequate sleep is widening.

Timing of Initial Well-Child Visit and Readmissions of Newborns

Current recommendations for the first outpatient visit for newborns are based on known health risks during the first week of life. Knowledge of the relationship between early well child visits and hospital readmissions may inform newborn health policy interventions.

Newborns who have a first well child visit within the recommended time period after hospital discharge are substantially less likely to be readmitted. Obstacles to early follow-up should be addressed to reduce the risk of readmission in this population.

Timing of Opioid Administration as a Quality Indicator for Pain Crises in Sickle Cell Disease

Patients with sickle cell disease frequently express dissatisfaction with emergency department treatment of painful crises. Time to opioid administration has been suggested as a quality of care measure for painful crises.

Although not associated with hospital admission, time to opioid administration in sickle cell disease painful crises was associated with secondary outcomes including improvement between the first 2 pain scores, decreased pain score area under the curve at 4 hours, decreased emergency department length of stay, and increased total opioids.

Azithromycin in Early Infancy and Pyloric Stenosis

Exposure to oral erythromycin in the first few weeks of life has been associated with the development of pyloric stenosis. Although azithromycin has become an acceptable alternative, little is known on whether this medication increases the risk of pyloric stenosis.

Exposure to oral azithromycin in the newborn period increases the risk of developing pyloric stenosis. Although this risk is highest if the exposure occurred in the first 2 weeks of life, the risk extends out to 6 weeks of age.

A Comparison of Individual- Versus Practice-Level Measures of the Medical Home

Medical home transformation is led by practice-level assessment, but much of the evidence supporting the medical home derives from individual-level assessment based on parental perception. The association between these 2 levels of assessment is unknown.

Among Boston-area community health centers, there was no association between the individual- and practice-level assessments of the medical home. This highlights the need for studies supporting the child health benefits of medical home practice transformation.

Vaccination, Underlying Comorbidities, and Risk of Invasive Pneumococcal Disease

Universal use of conjugated pneumococcal vaccines has resulted in dramatic decline in vaccine-type invasive pneumococcal disease. However, disease is not evenly distributed, and children with underlying clinical conditions are disproportionately represented, especially among children >5 years of age.

Invasive pneumococcal disease among children with comorbidity results in higher morbidity and mortality, and a large proportion of disease is due to serotypes not included in current conjugate vaccines.

Headache in Traumatic Brain Injuries From Blunt Head Trauma

Although headache is a common symptom after minor blunt head trauma in children, controversy exists whether the presence of headache increases the risk of traumatic brain injury.

Clinically important traumatic brain injuries are rare, and traumatic brain injuries on computed tomography are very uncommon in children with minor blunt head trauma when headaches are their only sign or symptom.

PEDIATRICS[®] SUMMARY

digest Summary

Prevalence of Duchenne and Becker Muscular Dystrophies in the United States

Worldwide prevalence estimates of Duchenne and Becker muscular dystrophies (DBMD) vary, likely due to differences in diagnostic criteria, ascertainment, and survival. To date, no population-based prevalence data for DBMD by race/ethnicity have been published in the United States.

Approximately 2 per 10 000 boys, ages 5 to 9 years, in 6 sites in the United States have DBMD; prevalence remained rather constant across 4 birth cohorts that spanned 2 decades. Prevalence differed among selected racial/ethnic groups across the time period examined.

Epidemiology of Pediatric Herpes Zoster After Varicella Infection: A Population-Based Study

This is the first population-based study regarding the epidemiologic characteristics of pediatric zoster among only those who had contracted varicella.

The herpes zoster (HZ) incidence among only children with varicella infection is higher than previously reported. The HZ incidence increased for children contracting varicella aged <2 years. After a vaccination program, the HZ risk increased for those contracting varicella aged ≥ 2 years.

BMI Curves for Preterm Infants

Preterm infants experience disproportionate growth failure postnatally and may be large weight for length despite being small weight for age by hospital discharge. There is no routinely used measure to quantify and monitor disproportionate growth in the NICU.

BMI differs across gender and gestational age. We provide a set of validated reference curves to track changes in BMI for prematurely born infants for use with weight-, length-, and head-circumference-for-age intrauterine growth curves.

Cost Saving and Quality of Care in a Pediatric Accountable Care Organization

Accountable care organizations are expanding. In pediatrics, however, there is no information on cost savings or quality generated by such organizations.

Partners for Kids is a pediatric accountable care organization that increased value for Medicaid children in 34 Ohio counties, primarily through cost savings. This slowing in cost growth was achieved without diminishing the overall quality or outcomes of care.

Allergy in Children in Hand Versus Machine Dishwashing

Microbial exposure during early life may prevent, or reduce, the risk of allergy development.

Allergic diseases are less common in children whose parents use hand dishwashing instead of machine dishwashing, and we hypothesize that this allergy-preventive effect is mediated via an increased microbial exposure.

Moisture Damage and Asthma: A Birth Cohort Study

Moisture damage and mold increase the risk of asthma and asthmatic symptoms. However, the location of the damage, or the specific group of children who are at greater risk of asthma, is rarely taken into account.

Inspector-observed moisture damage or mold in the child's bedroom, living room, or kitchen increased the risk of asthma and persistent asthma during a 6-year follow-up. Atopic children may be more susceptible to the effects of moisture damage and mold.

Sucrose and Warmth for Analgesia in Healthy Newborns: An RCT

Increasing data suggest that neonatal pain has long-term consequences. Pharmacologic interventions for minor pain are ineffective, and nonpharmacologic techniques (sucrose taste, pacifier suckling, breastfeeding) are effective and now widely used.

The taste of sucrose has been shown to be an effective and widely used analgesic for infants, and this study demonstrates that combining brief exposure to natural radiant warmth with the taste of sucrose improves the analgesic effect for the infant.

Intellectual and Academic Functioning of School-Age Children With Single-Suture Craniosynostosis

It is unclear whether developmental delays observed among infants with single-suture craniosynostosis (SSC) persist at school age. Few neurodevelopmental studies have examined children with SSC beyond age 3, with most having methodological limitations.

This study is the first to follow and test infants with SSC and a control group at school age. Infancy delays among children with SSC persisted at school age in some areas (IQ, math) but not others (reading, spelling).

Cognitive Outcomes After Neonatal Encephalopathy

Surviving infants with neonatal encephalopathy treated with hypothermia have lower rates of moderate to severe cerebral

palsy and cognitive impairment at 18 to 24 months. Limited data exist on the association between cognitive functioning and neuromotor, behavioral, and school outcomes.

Although the incidence of death or IQ <55 is reduced after therapeutic hypothermia, survivors of neonatal encephalopathy with and without cerebral palsy are at elevated risk for subnormal IQ and the need for specialized educational services at 6 to 7 years.

A School-Based Sleep Education Program for Adolescents: A Cluster Randomized Trial

Sleep deprivation is a worldwide problem in adolescents. The effectiveness of sleep education in enhancing sleep knowledge with consequent modification of sleep habits remains uncertain, in view of small sample sizes and lack of control groups in previous studies.

This large-scale, cluster randomized controlled study found that a school-based sleep education program was effective in enhancing sleep knowledge and improving behavioral and mental health, but it had no significant impact on sleep duration or pattern among adolescents.

Motivational Interviewing With Parents for Obesity: An RCT

Motivational interviewing (MI) has been found to increase the effectiveness of weight loss programs in obese children and adolescents. Although parental involvement seems to be linked to its effectiveness, strong conclusions cannot be drawn.

The present study found that MI with parental involvement is an effective strategy in changing obesity-related outcomes and has additional effects beyond MI with adolescents only. These findings are important when administering MI interventions in school settings.

Diet, Exercise, and Endothelial Function in Obese Adolescents

Adolescent obesity is characterized by endothelial dysfunction at the macrovascular and microvascular level; high endothelial microparticle (EMP) and low endothelial progenitor cell (EPC) counts contribute to these processes. Although reversal of macrovascular endothelial dysfunction is feasible, clinical evidence regarding microvascular endothelial dysfunction is scarce.

Ten months of diet and exercise training improves microvascular endothelial function (peak response) in obese adolescents. EPC

and EMP displayed a biphasic response, with an increase in EPC at 5 months and a decrease in EMP at the end of the treatment.

Utility of Symptoms to Predict Treatment Outcomes in Obstructive Sleep Apnea Syndrome

Obstructive sleep apnea syndrome (OSAS) is associated with significant comorbidity: behavioral problems, sleepiness, and impaired quality of life. However, the utility of OSAS symptoms versus polysomnography in the prediction of comorbidities or response to treatment is not well known.

Among children with OSAS, the Pediatric Sleep Questionnaire, a well-validated, simple 1-page symptom inventory, predicts key adenotonsillectomy-responsive OSAS comorbidities and their improvement after adenotonsillectomy. In contrast, polysomnographic results do not offer similar predictive value.

Medical Augmentation of Labor and the Risk of ADHD in Offspring: A Population-Based Study

Almost one-half of Danish first-time mothers with expected uncomplicated delivery receive oxytocin for labor augmentation. Oxytocin is listed as a drug with potential harmful effects, and recent studies suggest a possible association with subsequent attention-deficit/hyperactivity disorder in the child.

Using large nationwide registers, we were unable to detect any association between augmentation of labor and ADHD in offspring. Our findings do not support a causal role of perinatal exposure to oxytocin during delivery on the development of ADHD.

Hair Nicotine Levels in Children With Bronchopulmonary Dysplasia

Little is known about the impact of tobacco smoke exposure on preterm children with bronchopulmonary dysplasia. It is essential to understand how environmental exposures, such as tobacco smoke, influence respiratory morbidities in this vulnerable population.

Chronic tobacco smoke exposure is common in children with bronchopulmonary dysplasia. In children who required home respiratory support, hair nicotine levels were a better predictor of hospitalization and activity limitation than caregiver self-report.

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