Substance Use Patterns Through Early Adulthood

Results for Youth With and Without Chronic Conditions

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Introduction: Adolescence and emergent adulthood are periods of peak prevalence for substance use that pose risks for short- and long-term health harm, particularly for youth with chronic medical conditions (YCMC) who are transitioning from adolescence to adulthood. As there have been no nationally representative studies of substance use during this period for these medically vulnerable youth, the authors sought to examine onset and intensification of these behaviors for a national sample of youth with and without chronic conditions.

Methods: Longitudinal data are from 2,719 youth between the ages of 12 and 26 years interviewed from 2002 to 2011 for the Panel Study of Income Dynamics, Child Development and Transition to Adulthood Supplements, a nationally representative, population-based survey. Multivariate generalized linear mixed models were used to estimate patterns of alcohol, tobacco, and marijuana use during adolescence and emergent adulthood for youth with and without chronic conditions, adjusting for potential confounders.

Results: Overall, 68.8%, 44.3%, and 47.8% of youth reported ever trying alcohol, tobacco, and marijuana, respectively. Among users, 42.2%, 73.4%, and 50.3% of youth reported binge drinking, regular cigarette use, and recent marijuana use, respectively. YCMC were more likely to engage in any and heavier substance use; transition years and early adulthood were periods of peak risk for YCMC compared with their healthy peers.

Conclusions: Substance use among YCMC during adolescence and emergent adulthood is a substantial concern. Increased prevention and case detection are in order to address these behaviors and promote optimal health outcomes for medically vulnerable youth.

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Introduction

Adolescence and emergent adulthood are periods of peak risk for onset and intensification of substance use behaviors that pose risks for short- and long-term health harm.[1–6] Although substance use behaviors comprise health risks for all youth, these behaviors may uniquely undermine health status and disease management of youth with chronic medical conditions (YCMC), such as diabetes, asthma, and heart disease, and directly cause physiologic harm.[7–14] For YCMC, alcohol may negatively interact with over-the-counter and prescription medications,[15] and alcohol and other substance use may impact treatment adherence: A recent investigation found that the risk for medication non-adherence among YCMC who drink compared with those who do not was nearly double.[16] Moreover, substance use carries risks for poor sleep, unhealthy diet, and unprotected sex with attendant risks from sexually transmitted disease and pregnancy,[17–19] particularly devastating for youth taking immune-suppressing or teratogenic medications. Both substance use and chronic disease impose heavy

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morbidity burdens on the unfolding lives of young people, including during periods of added vulnerability when they are transitioning care.[20] Hence, intervening early to detect and deter the negative compounding influence of these behaviors on the health and well-being of adolescents and young adults may be especially important.

Although many chronic diseases have roots in substance use,[21] to date, there have been no nationally representative, longitudinal studies of substance use conducted among youth who already have a chronic disease. The authors sought to estimate incidence and prevalence of substance use (both lifetime and heavier use) among a national sample of youth with and without chronic conditions as they transition from adolescence to adulthood. Quantification of substance use prevalence among chronically ill and healthy youth and elucidation of differences across groups by behavior and condition have implications for implementation of substance use screening programs, early intervention, and prevention in primary and subspecialty care.[8,22–24]

Methods

Data Source and Sample

Data are from the Panel Study of Income Dynamics (PSID), a nationally representative, longitudinal household survey.[25,26] In 1997, children from birth to age 12 years residing in PSID households were recruited into the Child Development Supplement (CDS); repeat waves of the CDS were administered in 2002–2003 and 2007–2008. CDS participants who graduated or dropped out of high school and were aged ≥18 years were interviewed for the Transition into Adulthood (TA) survey in 2005, 2007, 2009, and 2011.

Respondents were eligible for this study if they were interviewed in the initial 1997 CDS wave and subsequently interviewed in at least one CDS or TA survey between the ages of 12 and 26 years and did not have missing information for any of the primary study measures (N=2,719). As data were already collected and de-identified, this study was exempted from IRB approval.

Measures

Respondents were asked about their experience with alcohol, tobacco, and marijuana; as question content and phrasing varied between the CDS and TA, efforts were made to reconcile responses across questions to construct similar measures for both surveys (Appendix 1, available online). For each substance, measures of lifetime use and heavy/regular/recent use were assessed. Additional details regarding the methods can be found in the technical Appendix (available online).

Lifetime use of alcohol was defined by reports of ever drinking beer/wine/liquor when not with their parents or other adults in their family in the CDS or ever drinking beer/wine/liquor in the TA. "Heavy use" of alcohol was characterized by report of binge drinking, specifically reporting monthly frequency of drinking four (for women)/five (for men) or more drinks in one occasion (CDS or TA), or being "very drunk" in the CDS. Lifetime use of tobacco was defined by the report of ever trying cigarettes in either the CDS or TA. "Regular use" was characterized by report of smoking at least one cigarette every day for 30 days. Lifetime use of marijuana was defined by reports of ever trying marijuana. "Recent use" was characterized by any past-month marijuana use without the consent of a doctor.

Substance use summary variables for incidence and prevalence were constructed separately for each survey administration; respondents completed an average of 3.3 additional assessments after the 1997 CDS administration. Earliest reported age of use or age at survey administration for first report of lifetime use (when reported age of initiation was missing) was used to determine incidence of lifetime use. Period prevalence of heavier use was constructed from point-in-time reports of substance use behavior; estimates for period prevalence were thus conditional on lifetime use.

Chronic conditions were conceptualized as those requiring regular, lifelong medical management with onset in childhood, and identified by report of ever being told by a doctor or other health professional that they had attention deficit/hyperactivity disorder; asthma; autism; birth defects; breathing problems; cancer; chronic hypertension (reported two or more times); diabetes; digestive problems; emotional or psychological problems; epilepsy; heart conditions; kidney disease; learning disability or developmental delays; migraines; orthopedic conditions; sickle cell anemia; skin disease; hearing, speech, or visual impairments; and other conditions. Youth who did not report any of the aforementioned chronic conditions or reported only acute or episodic conditions (e.g., allergies, jaundice, tonsillitis) were considered to have no chronic conditions. Youth with a reported diagnosis of intellectual disability were excluded.

Age at diagnosis was reported for most conditions but age at first report of each condition was used as a proxy when these data were missing. Youth with onset of a chronic condition after reported initiation of a substance were counted as not having the condition until they were diagnosed. In sensitivity analyses, these youth were excluded and models were re-run; results from the restricted and unrestricted samples were consistent.

Data on child sociodemographic factors included age in 1997, sex, and race/ethnicity (Hispanic, non-Hispanic white, non-Hispanic black, non-Hispanic Asian, non-Hispanic other). Several indicators of childhood SES were constructed, including

1. whether the mother participated in the Special Supplemental Nutrition Program for Women, Infants, and Children or Aid to Families with Dependent Children programs during pregnancy;
2. whether or not both parents were present in the household in 1997; and
3. the highest educational attainment for either parent (less than high school degree/GED, high school degree or GED, some college or vocational school, and college graduate or beyond).

Psychological distress was assessed at each interview using the Kessler 6 (range, 0–24; higher scores indicate greater distress).[27]