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Commentary

Obesity in children with developmental and/or physical disabilities

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Abstract

Children with developmental or physical disabilities, many of whom face serious health-related conditions, also are affected by the current obesity crisis. Although evidence indicates that children with disabilities have a higher prevalence of obesity than do children without disabilities, little is known of the actual magnitude of the problem in this population. To address this concern, the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD) held a conference on obesity in children with intellectual, developmental, or physical disabilities, bringing together scientists and practitioners in the fields of obesity and disability to foster collaboration, identify barriers to healthy weight status in populations with disabilities, propose avenues to solutions through research and practice, and develop a research agenda to address the problem. This article describes current knowledge about prevalence of obesity in this population, discusses factors influencing obesity risk, and summarizes recommendations for research presented at the conference. Published by Elsevier Inc.

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The rise of childhood obesity presents a significant public health challenge.¹ Children with disabilities, many of whom face serious health-related conditions related to their primary disability, also are affected by this health

crisis. Although evidence indicates higher prevalence of obesity than children without disabilities, little is known of the problem's magnitude or how it varies across disability type.

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To address this concern, the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development (NICHD) held a conference in 2010 on obesity in children with intellectual, developmental, or physical disabilities, bringing together scientists and practitioners in fields of obesity and disability to foster collaboration, identify barriers to healthy weight in populations with disabilities, and develop a research agenda. This paper summarizes not previously published discussions that occurred at this meeting, including obesity prevalence in children with disabilities, increased obesity risk in this population, gaps in knowledge, and recommendations for future research.

Obesity prevalence in children with disabilities

National survey data can assess prevalence of obesity among children and youth with disabilities, yielding representative samples that permit calculation of national prevalence estimates. Obesity prevalence in children is estimated based on body mass index (BMI) percentiles greater than or equal to the 95th percentile BMI relative to the CDC 2000 growth charts.²

Nationally representative data sources

Three nationally representative data sources provide information on prevalence of obesity among children and youth with disabilities.^{3–5} The National Health and Nutrition Examination Survey (NHANES), continuously collected and released every two years, combines physical examinations with in-person or proxy interviews for dietary assessment. Disability categories include: limitations in mobility, vision impairment and hearing impairment. Because NHANES total sample of children ages 5–17 is about 1200 each year, data must be aggregated across multiple years to achieve adequate sample sizes for children with disabilities. NHANES is a reliable measurement of obesity among children with disabilities, but not for monitoring annual changes.

To better examine changes over time, the National Health Interview Survey (NHIS) can be used. NHIS collects parent-reported data through annual in-person household interviews. Since 2008, height and weight data for youth ages 12–17 are publicly available. Its disability classifications include limitations in vision, hearing, remembering, and mobility without special equipment. Though it has a larger sample size than NHANES, data must still be combined for multiple years to achieve a sufficiently robust sample for estimates of obesity prevalence among children with disabilities. NHANES provides direct measurements of heights and weights, while NHIS data are reported by parents, which tend to be less accurate.⁶

The telephone-based National Survey of Children's Health (NSCH), begun in 2003 and conducted every four

years, collects information about children from their parents. Analyses of NSCH data reported herein have been done on the survey conducted in 2011. This survey provides data on more than 95,000 children and adolescents ages 0–17. NSCH allows identification of selected health conditions as well as special health care need status through five sets of questions relating to medication use, excessive medical care, ability limitations, receipt of speech/motor therapy, or receipt of behavioral/emotional treatment. The large sample size allows data to be disaggregated to the state level, but NSCH is not conducted annually, and is subject to biases associated with telephone surveys.⁷

Obesity prevalence in children and youth with disabilities

An analysis of 2005–2012 NHANES data covering ages 5–17, 2008–2013 NHIS data covering ages 12–17, and 2011 NSCH data covering ages 10–17 years indicates that children and youth with disabilities or special health care needs demonstrate higher rates of obesity than their peers without disabling conditions or special needs (Fig. 1). As assessed by NHANES, children and youth with disabilities were 35% more likely to be obese than peers without disabilities. NHIS data indicate that children with disabilities were 59% more likely to be obese than those without disabilities; NSCH data showed a 27% greater risk for children with special health care needs.

Disability type and obesity prevalence

All three data sources indicate that children and youth with *mobility limitations* experience higher rates of obesity than children without these limitations. Obesity prevalence for children and youth limited in their ability to crawl,

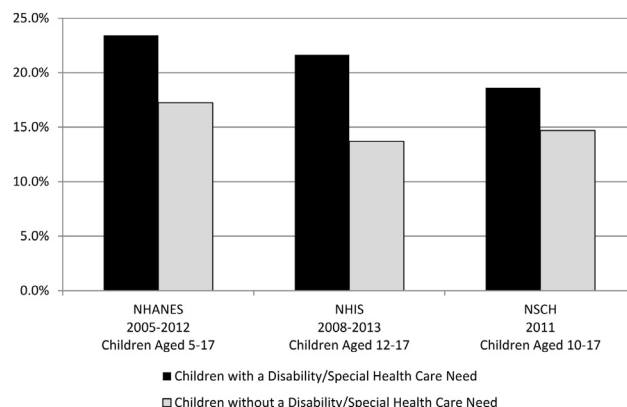


Fig. 1. Prevalence of obesity in children with and without a disability/special health care need using three U.S. national surveys. NHANES: National Health and Nutrition Examination Survey; NHIS: National Health Interview Survey; NSCH: National Survey of Children's Health.

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