Use of Prevention and Prevention Plus Weight Management Guidelines for Youth With Developmental Disabilities Living in Group Homes

Elizabeth F. Gephart, DNP, APRN, PNP-BC, &
Deborah G. Loman, PhD, APRN, CPNP

ABSTRACT

Introduction: Prevention and Prevention Plus strategies for weight management were implemented for youth with developmental disabilities living in community group homes at a Midwestern educational/residential center.

Methods: Caregiver staff were provided with weight management education, a communication tool for youth weight indices, weight and physical activity goals, dietary orders, and monthly follow-up communication. This 4-month study examined changes in weight indices, nutrition, physical activity, and staff perceptions of youth status using *t* tests, χ^2 tests, and Wilcoxon signed-rank tests.

Results: A significant decrease in mean body mass index percentile was found ($t(39) = 2.93$, $p < .01$, 95% confidence interval 1.29 to 7.04) that was primarily from change in the healthy weight category. More than 80% of the 40 youth achieved their weight goal. A significant improvement in daily fruit consumption ($p = .001$) and vegetable consumption ($p < .001$) was reported.

Discussion: These prevention strategies are useful to promote staff understanding of dietary goals for weight management in youth with developmental disabilities living in group homes and should be incorporated into practice by health care providers. Additional efforts are needed to increase physical activity during the winter months. J Pediatr Health Care. (2013) *27*, 98-108.

KEY WORDS

Developmental disabilities, children and adolescents, obesity, prevention

Elizabeth F. Gephart, DNP Graduate, Saint Louis University, Saint Louis, MO, and Assistant Professor, Millikin University, Decatur, IL.

Deborah G. Loman, Assistant Professor, Saint Louis University, Saint Louis, MO.

Conflicts of interest: None to report.

Correspondence: Elizabeth F. Gephart, DNP, APRN, PNP-BC, Millikin University, 1184 W Main St, Decatur, IL 62522; e-mail: egephart@millikin.edu.

0891-5245/$36.00

Published online September 12, 2011.

http://dx.doi.org/10.1016/j.pedhc.2011.07.004

Obesity in children and adolescents is a major public health concern in the United States, with prevalence as high as 16.9% for obesity (≥ 95th percentile body mass index [BMI] for age and gender) and 31.7% for overweight and obesity combined (≥ 85th percentile BMI for age and gender) in children between the ages of 2 and 19 years (Ogden, Carroll, Curtin, Lamb, & Flegal, 2010). An alarming upward trend in weights was noted during the years from 1988 to 2006 (Centers for Disease Control and Prevention [CDC], 2008).

Little research has been conducted on overweight in children with developmental disabilities. Rimmer, Yamaki, Davis, Wang, and Vogel (2011) established a prevalence of 17.5% for obesity and 16.0% for overweight in adolescents with disabilities aged 12 to 18 years ($N = 662$) based on data collected from an online survey of parents. Youth with cognitive disabilities had a higher prevalence of obesity (21.1%) than did those with physical disabilities (10.1%).

Healthy People 2010 (U.S. Department of Health & Human Services [HSS], 2000) proposes goals for promotion of health associated with nutrition and weight management, including individual goals for the health of persons with disabilities. Primary care providers often encounter challenges related to weight management in children and adolescents, and especially for youth with developmental disabilities. To meet these challenges, evidence-based guidelines were developed for weight management in children through consensus work of 15 professional organizations, experienced scientists, and clinicians (Barlow & Expert Committee, 2007). These guidelines address weight management primarily in normally developing youth within more "traditional" home environments.

The purpose of this study was to evaluate the efficacy of implementation of evidence-based practice guidelines for weight management for children and adolescents with developmental disabilities living within a community group home setting. It included the principles for stage 1 obesity treatment, known as "Prevention Plus" (Barlow & Expert Committee, 2007), through the introduction of a weight management communication tool and weight management education. These principles include recommendations for education of youth and families on the risks of obesity, development of individual youth weight goals, healthy lifestyle eating and activities, and follow-up communication. The goal of this study was to examine if weight management education and communication with caregiver staff would be associated with changes in youth weight indices, dietary intake and physical activities, and caregiver perceptions.

LITERATURE REVIEW

Weight Measurement and Categories

BMI is a measure of body weight that is adjusted for height (weight in kilograms divided by square of height in meters). For children, this measure needs to be modified to look at distribution of BMI changes related to age and gender. The feeding team at the study site has adopted the Children's BMI Tool for Schools from the CDC (2011), which is a downloadable Excel spreadsheet for calculating BMI for age.

The established BMI percentiles for age and gender are used to assess potential health risk related to weight. BMI categories were established by the 1998 Expert Committee with modification of the defining terminology by the 2007 Committee (Barlow & Expert Committee, 2007). Persons falling in the BMI group of less than 5th percentile are considered to be underweight. Healthy weight is defined as being from the 5th to the 84th percentile. The 85th to the 94th percentile is considered to be overweight (formally at risk of overweight). The group equal to or greater than 95th percentile is considered obese (formally overweight).

Weight Goals

Children's caloric needs and weight goals differ from those of adults relative to their ongoing linear growth. The goal for children and their caregivers is to incorporate permanent lifestyle choices of healthy nutritional choices and food preparation, as well as regular physical activity. The Expert Committee report provided guidelines for weight goals (Barlow & Expert Committee, 2007) that were used within the study agency (Table 1).

Prevention and Prevention Plus Strategies

The recommended first step in intervention strategies for children in the five BMI categories is either prevention or Prevention Plus (Barlow & Expert Committee, 2007). Prevention recommendations are the basis of lifelong habits that will support appropriate weight for height and age and decrease the risks of weight-related disorders. Prevention education should include reduction of sugar-sweetened beverages; inclusion of adequate fruits and vegetables; limitation of television/screen time to 2 hours per day; eating breakfast every day; limiting excursions to restaurants, especially fast food restaurants; limiting portion sizes to United States Department of Agriculture (USDA) serving recommendations for age; limiting consumption of energy-dense foods; and encouraging participation in moderate to vigorous physical activity (the total recommendation is for 60 minutes per day with 30 minutes per day in the educational setting and the remainder in the home setting; Davis et al., 2007).

Prevention Plus stage 1 obesity treatment builds on prevention activities and focuses on education of the family about current and ongoing weight status, risks of obesity, ongoing monitoring, and motivational support. Prevention Plus is recommended for youth who are overweight or obese and for youth of a healthy weight who have significant health risks (Barlow & Expert Committee, 2007).

Dietary, Physical Activity, and Sedentary Behaviors

Dietary recommendations are based on the principles of the Dietary Guidelines for Americans (USDA & USDHHS, 2010) and the USDA My Pyramid campaign (http://www.mypyramid.gov/). These sources include recommendations specifically for youth ages 6 to 11 years, adolescents, and adults.