

Physical Activity in a Structured Obesity Management Program

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Brief Project Description: Begin the development of a multidisciplinary weight management program by strengthening and expanding the physical activity components of the “LiVe Healthy Habits for Kids” weight management program.

Introduction and Overview:

The Problem. Overweight is fast becoming the most prevalent health problem in the United States and Utah. The percent of children who are overweight has increased from about 5% in 1963 to 17% in 2004 (1). If the current weight trend continues, in ten years 30% of children will be overweight. In Utah, in 2006, approximately 23% of children were overweight or at risk for overweight, with more boys being overweight than girls (2).

Obesity is a complex multifactorial disease that involves family, behavior, cultural, physiologic, genetic, and metabolic factors. Evidence based treatment programs for overweight children should include nutrition, physical activity, and behavior components tailored around family participation (3).

Project Rationale. For the past 20 years Primary Children’s Medical Center and other Intermountain facilities have offered a pediatric weight management classes. Although these classes covered the evidenced based treatment areas of nutrition, physical activity, and behavior only dietitians were involved in creating, managing, and teaching the class. Social workers and exercise physiologists were invited as guest speakers for the class, but were not part of an integrated multidisciplinary program.

In 2007 a team of physicians, dietitians, pharmacists, nurses, behavior health specialists, and health plans from Intermountain Healthcare created a Pediatric Weight Management Care Process model (CPM) to guide physicians in the assessment and treatment of childhood overweight (4). In tandem with the creation of the clinical guidelines, a public service campaign called LiVe was launched. In addition, dietitians began revision of the weight management program to more closely meet current evidenced based guidelines and align the class with the LiVe campaign.

This project targeted the integration of the areas of nutrition and physical activity to begin the development of a structured multidisciplinary weight management program. Dietitians, physical therapists, and social workers are three professions uniquely qualified to provide care for overweight patients. A structured multidisciplinary program has the potential to strengthen the effectiveness of treatment for childhood overweight.

Project Aims:

1. Strengthen and expand the physical activity component of LiVe weight management program.
2. Develop a protocol/process for interdisciplinary communication among providers of overweight children, specifically dietitians and physical therapist.
3. Add a physical therapy guideline to the existing pediatric weight management care process model.

Project Overview

Establishing a Structured Weight Management Program. A plan to strengthen and enhance the physical activity component of the LiVe program was developed. The plan required the collaboration of dietitians and physical therapists. Key activities in the plan included:

- Development of defined written assessment guidelines for determining which children would benefit from a structured weight program.
 - Training of physical therapists and dietitians on how to complete standard assessment of weight, height, BMI, and growth.
 - Obtaining adequate equipment (scales and stadiometers) to correctly assess children's growth
- Creation of standardized curriculum for physical activity classes in the LiVe weight program
 - Drafting of physical activity classes by dietitians in the areas of
 - Physical activity overview
 - Cardiovascular activity
 - Strength and endurance activities
 - Flexibility activities
 - Pilot testing each class at least twice
 - Review of physical activity curriculum by physical therapists for accuracy and appropriateness
 - Addition of tips for involving children with disabilities in physical activities
- Creation of clinical process guidelines for physical therapists in treating overweight children.
- Draft submission for care process model of when physicians should refer overweight children to physical therapy
- Establishment of referral process for overweight children to
 - Structured weight management program
 - Individual therapy with a dietitian
 - Individual therapy with a physical therapist
- Discussion and integration of involving physical therapists in teaching physical activity components of weight program.

Measures and Evaluation Tools

The project was evaluated in two different areas: first evaluating the curriculum through reviews, pilot testing, and revisions and second establishing a long-term research project to evaluate the effectiveness of the program.

Evaluation of Physical Activity Curriculum. The development and evaluation of curriculum was divided into two stages: 1) dietitians to draft curriculum and conduct pilot classes and 2) physical therapists to review curriculum.

1. Dietitians, experienced in pediatrics and weight management, drafted curriculum for five physical activity classes. Three of the five classes were piloted tested at least two times by two separate dietitian instructors with two separate groups. (The remaining two classes are set to be piloted in May and June of 2008.) After each class was taught, instructors conducted informal discussion with class participants to assess lesson content, activities, and timing. After the pilot classes and assessment, each class was revised to better reflect the needs of the participants, ease of instruction, and appropriateness of materials and activities.
2. Physical therapists are currently reviewing the pilot tested curriculum and making suggestions for adapting the activities to children with disabilities.

Research Component. A research project has been established to determine if the LiVe weight program is effective in helping participants achieve and maintain a healthy weight and develop long-term healthy nutrition, activity, and behavior practices. Intermountain Healthcare's Institutional Review Board has approved the project. Participants in the LiVe program will have weight, height, and BMI measured at the beginning of the program and again 12 months later. Participants will also complete a questionnaire regarding nutrition and physical activity behaviors at the beginning of the program and again 12 months later. Data collection began in November 2007; post data will be available starting in fall 2008. The data will be used to assess the effectiveness of the program and determine if any program revisions are needed.

Result and Discussion of Project

Strengthening the physical activity component of the LiVe program by integrating services of dietitians and physical therapists is well underway. Most key activities for the project are complete. The following provides a discussion of each key activity in the project.

Development of standard obesity assessment guidelines for children.

A care process model, containing evidence based assessment guidelines for assessing and treating overweight children was completed in early 2007. A team of physicians, nurses, dietitians, pharmacists, and other disciplines researched and completed the guide. The guide has been distributed to numerous physicians and clinics throughout Utah.

A learning module was developed to help physical therapists understand the LiVe program and become competent in measuring weight and height, calculating BMI, and interpreting the anthropometric data. The learning module is available to physical therapists on a shared web page. The web page allows staff to complete the module in a convenient time efficient manner. In addition to the learning module, *a grant was written and funded to support the purchase of scales and stadiometers* for all rehab centers in the Intermountain Healthcare system. Appropriate equipment allows staff to correctly assess children's growth

Creation of standardized physical activity curriculum.

Curriculum for five physical activity classes was completed. The five classes include: physical activity overview, cardiovascular activities, strength and endurance activities, flexibility activities, and instructor's choice activities. Each curriculum set includes an outline for an hour long class and supporting handouts. To incorporate active learning into the class, each session pairs 15 minutes of discussion, about the type of activity, with 45 minutes of physical activity. Three of the classes have been taught at least twice by two separate instructors (the last classes will be taught in May and June 2008). Each curriculum set was revised after teaching at least two times.

Physical therapists are currently reviewing the curriculum to assess accuracy, appropriateness, and provide tips for involving children with disabilities in physical activities

Creation of guideline for physical therapists in treating overweight children.

A *care process guideline* for physical therapy treatment of overweight children has been completed. The guideline will be used to standardize the assessment, care, and treatment of overweight children by physical therapists. The guideline was written by a physical therapist and reviewed by physical therapists, dietitians, and physicians. The guideline is designed to work in tandem with the standard care process model.

A *screening guideline* to help physicians and dietitians know when to refer a child for physical therapy, in addition to the structured program, is in the process of being developed. The guideline will discuss screening overweight children for: orthopedic problems, discoordination, breathing or other problems that may indicate a child would benefit from physical therapy.

The screening guideline has become one of the harder portions to complete in the project. There is abundant and clear evidence that physical activity is an integral component of a successful weight management program. There is limited evidence on who should provide the physical activity component. Physical therapists are definitely an expert in physical activity; however, sending all overweight children for a physical therapy evaluation to determine if physical therapy is needed is costly and impractical. A screening guideline that helps other providers determine when referral to physical therapy is appropriate is more time and cost efficient.

Involving physical therapists in teaching physical activity components of weight program.

To this point only dietitians have taught the physical activity classes. The following are being reviewed and discussed so physical therapists can be the key physical activity staff in the LiVe program.

1. Reimbursement of physical therapy time. Currently the registration fee for the program is directed to the nutrition department. A process for reimbursing physical therapy for their time is being discussed.
2. Setting schedules to accommodate teaching. The LiVe class is offered in the evening to better accommodate family, school, and work schedules. Different facilities offer the program on different days of the week. Dietitians and physical therapists in facilities

offering the program are working together to set schedules to allow physical therapist to teach the physical activity classes.

Summary

The “LiVe Healthy habits for Kids” program has been running for eight months at Primary Children’s Medical Center, four months at Utah Valley Regional Medical center, and two other Intermountain facilities are preparing to start the program in the next few months. Approximately 30 families have enrolled in the program to date.

The project aims are nearing completion. The physical activity component of the LiVe weight management program has been strengthened and expanded by writing guidelines, securing equipment, and pilot testing curriculum. The inclusion of physical therapists in teaching the physical activity components of program is well underway.

Two **long-term goals** for the project include:

1. Working with social work, psychology, or other behavior health specialists to strengthen the behavior component of the program.
2. Securing long-term funding for low-income overweight children to participate in the program. Current program costs are about \$225 per participant for one year. A grant has been submitted to request one year of funding for scholarships for low-income children. For long-term continuous of funding, a proposal will need to be submitted to the corporation’s administration to include overweight children in the corporation’s charitable mission.

References

1. Centers for Disease Control and Prevention. (2007). *Childhood Overweight*. Retrieved January 4, 2008 from <http://www.cdc.gov/nccdphp/dnpa/obesity/childhood/index.htm>AMA
2. Utah Department of Health. (2007). *Obesity in Utah*. Retrieved January 4, 2008 from <http://health.utah.gov/obesity/data.html> accessed Jan. 4, 2008
3. American Dietetic Association. (2007). *Evidence Based Pediatric Weight Management Nutrition Practice Guideline*. Retrieved December 15, 2007 from www.evidencelibrary.com
4. Intermountain Healthcare. (2007). *Primary Guide to Weight Management for Children and Adolescents*. Salt Lake City, UT: Care Process Model Development Team.