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A Community Model to Improve Physical Activity in Children
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Introduction
• The prevalence of overweight / obese children aged 2-5 in the United States is 21.2%. The National Center of Health Statistics estimates a 30% increase in the prevalence of obesity between 2001 and 2004.
• The Vermont Department of Health estimates that about 30% of low income children between 2 and 5 years of age are overweight or at risk of becoming overweight.
• Physical activity programming at child care centers is the most important predictor of physical activity in preschool-aged children, more important than the child’s socioeconomic and demographic characteristics.
• Although the National Association for Sports and Physical Education offers some guidelines, there are no clear recommendations for physical activity in childcare settings in Vermont and nationwide.

Objective
• Assess the physical activity of preschool-aged children attending Burlington Children’s Space (BCS).

Methods
Parent questionnaire
• Parents’ opinions about physical activity at BCS were assessed using questionnaires.

Teacher questionnaire
• For each day during a one week period at school, BCS preschool teachers were asked to enter the number of minutes spent on a given activity and the percentage of students who participated in each activity.

Workshop
• Following the initial teacher questionnaire, researchers held a workshop with BCS preschool teachers to discuss childhood obesity, the importance of offering a diversity of physical activities, and best practices to incorporate activity into the curriculum.

Teacher post-workshop questionnaire
• Teachers again completed a physical activity questionnaire. All teacher questionnaire results were analyzed following the second survey to minimize bias.

How Does BCS size up?
BCS preschool children participated in an average of 136.5 min/day and 148 min/day of exercise in the first and second surveyed weeks respectively. This exceeds the 120 minutes of combined free play and structured activity time recommended by NAPSACC.

Exercise Outside of School

Winter Limits My Child’s Activity
Agree Neutral Disagree
0% 71% 29%

[In the winter], we still walk everywhere and slid”—BCS parent

How Often Do You Speak With a Pediatrician About Physical Activity?
No rarely once a year
19% 45% 40%

“We really only see [our pediatrician] once a year, so we discuss other things”—BCS parent

Conclusions

Applicability
• While BCS was shown to meet or exceed requirements for physical activity in preschools, much of our research may be applicable to other preschools in the state and country in order to address the childhood obesity epidemic.

Lessons from BCS
• For preschools failing to meet standards for physical activity, aspects of the BCS model that could be implemented include:

Culture: Creating a culture of physical activity at the childcare center.
• For example, BCS recommends children not attend school if they are too sick to go outside to participate in physical activity.

Education: Devoting resources to training and ongoing education of childcare center staff.
• Our workshop had an impact on physical activity at BCS and shows promise for future training opportunities.

Creativity: Finding creative ways to put physical activity into preschool curriculums.
• BCS has largely replaced the model of “recess” with more participatory “adventures,” physically active outings that are interdisciplinary and highly participatory.

Call to action
• Implement standards for preschool physical activity
• Improve physical activity screening in the health care setting.

References:
• Centers for Disease Control and Prevention. Physical activity for everyone.

How effective was our workshop?

Goals reported by BCS teachers after the workshop
• Include ALL children in active participation
• Encourage activity on the playground
• Play and facilitate more

Effect of workshop
Group games allow a teacher to encourage multiple types of exercise (bone strengthening, muscle strengthening, moderate intensity aerobic, and vigorous intensity aerobic exercise). Each type is important for a child’s healthy physical development.

Percent of Children Participating in Group Activities Before and After Workshop

Group Game Participation Before and After Workshop

New and useful information from the workshop included the need for bone strengthening activity—BCS teacher