According to the United States Center for Disease Control and Prevention, childhood obesity is an epidemic and has more than doubled in children ages 6-11 from 1980-2012. It is understood that a multimodal approach is the best method to reduce Body Mass Index (BMI). However, such approaches may not be feasible due to socioeconomic constraints and varied family participation. This systematic review was conducted to determine if a school-based physical activity program (PAP) alone, in addition to regular Physical Education (PE), can decrease BMI in school-aged children.

The American Academy of Cerebral Palsy and Developmental Medicine (AACPDPM) methodology was used to conduct this review. Five databases were searched using the following criteria: school-aged children, school-based PAP provided in addition to PE, an outcome measure of BMI, and peer-reviewed studies published within the last 10 years. Four authors independently reviewed studies for eligibility, and the strength was rated using the AACPDPM conduct of group design questions.

The initial search produced 376 articles. Following removal of duplicates and studies that did not meet inclusion criteria, five articles remained. One study was a level II non-randomized trial, three were Level II randomized controlled trials (RCT), and one was a Level I RCT. All studies demonstrated moderate to high methodological strength. Reviewed studies included a total of 1,324 subjects. The number of minutes of the PAP varied among the studies from 60-605 minutes per week and there was heterogeneity in the types of activities provided between the different studies. Even with these limitations, each study showed an overall reduction in BMI for children who participated in a PAP with the greatest effect seen in obese and overweight children.

Although a multimodal approach has been shown to be most effective, this review showed that the addition of a PAP alone is effective in reducing BMI in 6-12 year-old children, especially those who are already obese or overweight. Many schools may not have the resources to implement a multimodal approach, but may be able to provide a PAP in addition to their current PE curriculum. It appears that a minimum of 8 weeks of moderate to vigorous activity is indicated. However, further research is needed to determine the optimal amount of physical activity required to reduce BMI so that minimum activity levels can be established.

Clinical Relevance

Giving the increased incidence of childhood obesity in the United States, school-based physical therapists could play a significant role in advocating for and establishing school-based PAPs to reduce BMI among children. Development of these intervention programs may not only impact children who are already overweight or obese, but may also improve the overall health and wellness of all school-aged children.

Reference:

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