Safe Routes to School as a Promising Strategy to Address Childhood Obesity: A Review of the Research

The rate of childhood obesity has increased four-fold over the past forty years. Obese children are at an increased risk for developing health problems such as heart disease, diabetes, cancer, and hypertension. Activity levels for many children have declined because of a built environment that is unsafe for walking and bicycling, the low percentage of children who take physical education in school, and the popularity of sedentary leisure-time activities.

Using Safe Routes to School as way to create environment, policy and behavioral changes is one way to increase physical activity and promote the health of both children and adults. The evidence for Safe Routes to School as a strategy to address childhood obesity is based on the body of research that links physical activity, the built environment, and obesity.

Safe Routes to School programs increase physical activity:

- Safe Routes to School programs can increase walking and bicycling by 20 to 200%.[1]
- Neighborhood schools, where distances to school are more manageable, produce a 13 percent increase in walking and bicycling.[2]
- Children who walk to school are significantly more physically active throughout the day.[3] [4]
- Children who walk or bicycle to school have better cardiovascular fitness than do children who do not actively commute to school.[5] [6]
- Children who walk to school get three times as much moderate to vigorous physical activity during their walk to school than during recess.[7]
- In a study of adolescents, 100% of the students who walked both to and from school met the recommended levels of 60 or more minutes of moderate to vigorous physical activity on weekdays.[8]
- A study among a large, nationally representative sample of US youth reported that active commuting to school was positively associated with moderate-to-vigorous physical activity and inversely associated with BMI z-score and skinfold thicknesses.[9]
- A pilot study of walking school buses found that participants in the walking school bus increased the frequency of walking to school and the minutes of daily moderate-to-vigorous physical activity.[10]

More physical activity can prevent weight gain:

- An evaluation of the America on the Move initiative found that two small lifestyle changes—specifically eliminating 100kcal/day from the diet and walking an additional 2000 steps a day—can help address childhood obesity by preventing excess weight gain.[11]
- Children gain weight when they take in more calories than the energy they expend. The "energy gap" is narrow enough in most children that simply making consistent behavioral changes—either eating less or smarter or getting more physical activity—averaging 110 to 165 kcal/day may be sufficient avoid weight gain.[12]

Building bicycle and pedestrian infrastructure leads to more physical activity and lower rates of obesity:

- Children in neighborhoods with sidewalks and safe places to cross the street are more likely to be physically active than children living in neighborhoods without those safe infrastructure elements.[13]

- Communities that are more walkable and bikeable and that have pedestrian-accessible destinations increase physical activity levels.[14]
- People living in auto-oriented suburbs drive more, walk less, and are more obese than people living in walkable communities. For each hour of driving per day, obesity increases 6 percent, but walking for transportation reduces the risk of obesity.[15]
- A 5% increase in neighborhood walkability was associated with 32.1% more minutes devoted to physically active travel.[16]

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