

Background

- Childhood obesity is increasing at an alarming rate, and the prevalence among preschool children has doubled (Vargus, et al 2008).
- 32% of Head Start children estimated to be overweight or obese (Hu, et al 2007).
- Under use of inhaled corticosteroids (ICS), overuse of short term B2 agonist and limited use of asthma action plans have been seen in subsidized inner city preschools (Purmort, et al 2008)
- Studies of pediatric populations have clearly established the relationship between obesity and asthma, as well as poor asthma outcomes.
- 25% of Head Start children have asthma (Turner-Henson, et al 2006).

Methods

- Secondary analysis of two data sets:
 - Turner-Henson, et al (2005) Secondhand smoke reduction trial
 - JCCEO Head Start data (2002)
- BMI calculated (CDC BMI calculator online) based on height and weight from JCCEO Head Start data
- Total sample = 215 (mean age =4.64 yrs)
- Gender:
 - 44.7% (96) female
 - 55.3% (119) male
- Ethnicity:
 - 98.1% (211) African American
 - 1.9% (4) other

Findings

| BMI Classification | Percentage (n) |
|--|----------------|
| Underweight (\leq 5 th percentile) | 4.65 (10) |
| Normal (5-84.9 th percentile) | 64.65 (139) |
| Overweight (85-94.9 th percentile) | 14.42 (31) |
| Obese (95 – 98.9 th percentile) | 7.44 (16) |
| BMI \geq 99 th percentile | 8.84 (19) |

Research Question

What asthma factors are more predictive of high BMI in an inner city preschool population?

Results

- 37.2% of preschool children who still have asthma are obese ($>$ 95th percentile)
- 54.5 % of obese preschool children who still have asthma were not receiving standard of care medications (e.g., ICS; NHLBI Asthma Care Guidelines)
- For children with asthma or with reported asthma symptoms who were obese, 45.5% were not receiving standard of care asthma medications (NHLBI Asthma Care Guidelines)
- Asthma diagnosis and taking asthma medications (ICS) was not predictive of obesity (BMI $>$ 95th percentile) in children ($p=.22$)

Discussion

- Preschool children in this population who were obese were more likely to have asthma symptoms.
- Preschool children who are obese may be more likely to have under-diagnosed asthma and at greater risk for asthma morbidity.
- Preschool children who are obese are more likely to not receive standard of care asthma medications

Limitations

- Parental self report of asthma diagnosis, symptoms, and medications
- Data for oral and intermittent steroid use was not reported

