

# **Healthy Kids in Healthy Places**

**Community Action Forum**

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# The Role of Breastfeeding in Obesity Prevention

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# What studies on breastfeeding and overweight can tell us

- Presentation Credit
  - Based on presentation by Dr. Laurence Grummer-Strawn

# Are breastfed children thinner overall or are they only different at the extremes of weight?

- Effect appears to be only in the upper tail of the BMI distribution
- Studies looking at 2 cutoffs for overweight and obesity tend to find stronger effects at the more extreme cutoffs

# Is ever breastfeeding associated with lower rates of overweight?

- In general yes, although effects are quite small in some populations or subgroups
- Meta-analysis shows 13% reduction in odds

# Does breastfeeding duration matter?

- There is a dose-response effect: overweight decreases with increasing duration
- Odds of overweight are ~32% lower for breastfeeding >7 months vs. never breastfed
- No apparent benefit with <1 month duration

# Does exclusivity of breastfeeding matter?

- Few studies measure supplements to breastmilk
- In general, effects are significant for non-supplemented breastfeeding

# Does the effect of breastfeeding persist for older children?

- Effects do appear to persist through teen years
- Effects on adults have rarely been studied
  - 2007 study, Michels et al, International Journal of Obesity
    - No correlation between breastfeeding and less obesity

# Are effects related to differences in socio-economic status?

- Because high socio-economic status may be related to more or less breastfeeding and more or less obesity, there is no clear expectation
- Most studies do control for socio-economic status

Are effects a reflection of lower  
breastfeeding rates among obese  
women?

- Effect of breastfeeding is typically dampened somewhat after controlling for mother's BMI but does not disappear

Are effects a reflection of better nutrition and physical activity behaviors among women who choose to breastfeed?

- No studies have adequately examined post-infancy nutrition and physical activity to answer this question

# Potential biological mechanisms



# Potential biological mechanisms

- Direct effects of formula
  - Increased insulin response to formula – results in greater deposition of adipose tissue
  - Higher protein intake in formula –programming effect on glucose metabolism
  - Formula – can result in leptin resistance – overeating in adults

# Potential biological mechanisms

- Learned self-regulation of intake
  - Breastfed infants control milk feeding based on satiety
  - Bottle-fed infants encouraged to finish bottle
  - Children who were breastfed:
    - Are better able to adjust meal intake after consuming high calories
    - Adapt more readily to new foods

# Potential biological mechanisms

- Altered parent-child interactions
  - Mothers who breastfed > 12 months reported lower levels of control over feeding at 18 months
  - Highly controlling feeding practices may interfere with child's ability to self-regulate energy intake

# Breastfeeding as an Obesity Prevention Strategy

- A long term strategy
- Effects are “small”, but so are those of other behaviors
- Short term behavior change appears to have long lasting effects
- Use of new WHO growth charts help diagnose overweight sooner than CDC charts
  - [www.who.int/childgrowth](http://www.who.int/childgrowth)