Myths and Misconceptions about Obesity: Best Investments for Obesity Control

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Myths and Misconceptions

Obesity is a personal choice
• A myth promoted by describing people with obesity as obese

Poverty causes obesity
• A misconception - ethnicity is confused with SES

Big changes are needed to solve the problem
• A misconception – major caloric deficits are needed only for people with severe obesity
Obesity Trends in 2-19 yo over the Past 12 Years

Fryar CD et al. 2012, NCHS data brief
Childhood Obesity Trends Over Time in 2-5 Year-Old U.S. Children
States and Communities Reporting Decreases in the Prevalence of Childhood Obesity

El Paso, TX
NM
CA
MS
Anchorage, AK
Chula Vista, CA
Kearney, NE
DuPage County, IL
WV
Vance, NC
Granville, NC
Philadelphia, PA
King County
CA
San Diego, CA
Chula Vista, CA
Anchorage, AK
El Paso, TX
New York City
Portland, ME
Fitchburg, MA
Somerville, MA
Cambridge, MA
Incidence of Obesity in Early Childhood

• 32% of children overweight in kindergarten developed obesity by 14 yo, compared to 8% of normal weight classmates (4-X greater risk)
• Children overweight in kindergarten who developed obesity by 14 yo = 45% of all 14 yo. with obesity.
• 75% of severe obesity (99%tile) persists
• High birth-weight children = 12% of population but = 36% of children with obesity by 14yo

Changes in the Prevalence of Severe Obesity (120% of the 95th %tile) in Girls 1976-2006

Wang et al. Int J Pediatr Obesity 2010; on line
Changes in the Prevalence of Severe Obesity (120% of the 95th %tile) in Boys 1976-2006

Wang et al. Int J Pediatr Obesity 2010; on line
Prevalence of Obesity by SES among Boys
NHANES 2005-2008

Ogden CA et al. NCHS Data Brief 2010: #51
Obesity Trends in Adults over the Past 12 Years

Fryar CD et al. 2012, NCHS data brief
Severe Obesity Trends in Adults over Past 12 Years


Men:
- 1999-2000: 3.1%
- 2001-2002: 4.4%
- 2003-2004: 4.4%
- 2005-2006: 4.4%
- 2007-2008: 4.4%
- 2009-2010: 4.4%

Women:
- 1999-2000: 6.2%
- 2001-2002: 8.1%
- 2003-2004: 8.1%
- 2005-2006: 8.1%
- 2007-2008: 8.1%
- 2009-2010: 8.1%
Prevalence of Obesity by SES among Men
NHANES 2005-2008

Ogden CA et al. NCHS Data Brief 2010: #50
Prevalence of Obesity by SES among Women
NHANES 2005-2008

Ogden CA et al. NCHS Data Brief 2010: #50
Percentage of Costs Attributable to Overweight and Obesity (2000 MEPS Sample)

- Overweight (36%)
- Grade I (15%)
- Grade II (5%)
- Grade III (3%)

Changes in Dietary Habits and Weight Change

Mozaffarian D et al. NEJM 2011364:2392
**Daily Energy Deficits Necessary to Achieve the HP 2010 Goal (Prevalence = 5%) by 2020**

<table>
<thead>
<tr>
<th>Age</th>
<th>HP2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-5 yo</td>
<td>33 Kcal/d</td>
</tr>
<tr>
<td>6-11 yo</td>
<td>149 Kcal/d</td>
</tr>
<tr>
<td>12-19 yo</td>
<td>177 Kcal/d</td>
</tr>
</tbody>
</table>

Principal Targets for Obesity Prevention and Control

Pregnancy: pre-pregnant weight, weight gain, diabetes, smoking

Sleep
Reduce energy intake
  Decrease high energy density foods
  Increase low energy density foods
  Reduce sugar drinks
  Decrease television time

Breastfeeding
Increase daily physical activity
## Sources of Excess Caloric Consumption (Kcal) in the Diets of Children and Adolescents

<table>
<thead>
<tr>
<th>Source</th>
<th>2 -11 yo</th>
<th>12-19 yo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sugar drinks</td>
<td>93 Kcal</td>
<td>225 Kcal*</td>
</tr>
<tr>
<td>Fast food</td>
<td>126 Kcal</td>
<td>309 Kcal**</td>
</tr>
<tr>
<td>Pizza</td>
<td>91 Kcal</td>
<td>228 Kcal***</td>
</tr>
</tbody>
</table>

*Kit et al. Am J Clin Nutr 2013;doi:103945
**Powell & Nguyen JAMA Pediatr 2013;167:14
***Powell et al. Unpublished data
Changes in Food Consumption in the US

• Between 1999-2000 & 2009-10, sugar drinks declined by 68 Kcal in 2-19yo and 45 Kcal in adults*

• Between 2003-4 & 2007-8, fast food consumption decreased by 64 Kcal (25%) in 2-11 yo, 14 Kcal (3%) in 12-19 yo, and 33 Kcal (9%) in adults**

Initiatives Likely to Contribute to the Control of Childhood Obesity

- Increased awareness
- Increase in Baby Friendly Hospitals
- Changes in rates of breastfeeding
- Changes in the WIC food package (2009)
- Child and Adult Care Feeding Program standards
- Healthy Hunger-free Kids Act
- School wellness councils
- Healthy Weight Commitment – 6.4 trillion calorie reduction in the food supply
- Partnership for a Healthier America contracts
Annual Adult per Capita Cigarette Consumption and Major Smoking and Health Events – US

1900-1998

- Great Depression
- End of WW II
- 1st Surgeon General’s report
- 1st World Conference on smoking and health
- Broadcast advertising ban
- Fairness Doctrine messages on TV and radio
- Nonsmoker’s rights movement begins
- 1st smoking cancer concern
- Surgeon General’s report on environmental Tobacco smoke
- Master settlement agreement
- Nicotine medications Available over the counter
- Federal cigarette tax doubles
- 1st Great American smokeout
- 1st World Conference on smoking and health
- 1st World Conference on smoking and health

Thousands per year

Year

The Number of Baby Friendly Steps in Place Predicts Risk of Breastfeeding Cessation

Steps measured:
- Early BF initiation
- Exclusive breastfeeding
- Rooming-in
- On-demand feedings
- No pacifiers
- Information provided

Early postpartum

At 6 months

At 12 months

Exclusive at 6 mo

Percent Breastfeeding

National Trends in Breastfeeding Rates

Data Source: Pre-1999 – Ross Mothers’ Survey; 1999-present – CDC National Immunization Survey
Children in Early Care and Education Programs

In 2001, 73% of preschool children ages 3-5 years old (8.6 million children) participated in at least one weekly non-parental care arrangement.

Nearly 60% of children 3-4 years with employed mothers participate in center-based care.

41% of preschool children are in child care for 35 or more hours/week.

Let’s Move Child Care Challenge

• Physical activity: 1-2h/d, outside play when possible
• Screen time: None for <2yo; 30'/w during child care
• Food: Fruits or vegetables at every meal, no fried foods, family style
• Beverages: Water access at meals and throughout day; no sugar drinks; LF or NF milk for children over 3 years old; limit juice to 4-6 oz/d of 100% juice
• Infant feeding: Support breastfeeding for mothers during the child care day
Best Strategies for Reducing Calories

Foods

• Apply CA stds to competitive foods – 78 Kcal/d

• Eliminate SDs or switch from whole to low fat milk in Early Care and Education Centers – 80 Kcal/d

• Decrease fast food consumption – 125 – 310 Kcal/d

Opportunities for School-wide Physical Activity

Kohl HW III, Cook HC. Educating the Student Body, IOM 2013.
Minutes of Moderate to Vigorous PA Associated with Changes in School-based Policies or Built Environment

- Modified recess: 5 minutes
- Standardized PE: 6 minutes
- Afterschool PA: 10 minutes
- Walk/bike to school: 16 minutes
- Classroom PA breaks: 19 minutes
- Mandatory PE: 23 minutes

Healthy Kids Out of School: Drink Right, Snack Smart, Move More
Nutrition labeling
Market healthful foods
Healthy checkout
Children and adult wellness meals
Standards for cafeteria and general menu offerings
Remove all fryers and deep fat fried products by 2016
Increase fruit and vegetable purchases by 20% annually
Increase healthy beverage purchases to 80% total
Progress – Child Obesity (2006-2010)

Obesity among Philadelphia schoolchildren (5-18 years), 2006/07 - 2009/10

Robbins et al, Preventing Chronic Disease, 2012
• Decrease in obesity from 21.5% to 20.5% from 2006/7 – 2009/10, representing a 5% decrease overall
  – 8% decrease among African American boys, 7% decrease among Hispanic girls
  – Similar decreases in severe obesity
• Potential causes
  – Increased national focus by government, foundations, private sector
  – 1990s Universal feeding program in high-poverty schools
  – 1999 Nutrition education in high-poverty schools (SNAP-Ed)
  – 2004 Comprehensive school nutrition policy
  – 2004 Fresh Food Financing Initiative
  – 2007 Trans fat ban
  – 2008 Menu labeling
  – 2009 Complete Streets executive order
  – 2009 1% milk and no fryers in school kitchens

Robbins et al, Preventing Chronic Disease, 2012
Strategies to Reduce Disparities

- Economic development
- Subsidies
- Discounts
- Anti-hunger efforts

- Food retail
- Schools/child care
- Worksites
- Parks and recreation
- Health services
- Relevance
- Quality and appeal

- General education
- Health education
- Health literacy
- Messaging
- Positive experiences

- Increase positive access and potential for effectiveness
- Decrease deterrents
- Add financial resources
- Increase receptivity
- Reduce harmful messaging
- Remove/transform adverse access

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Best Investments

• Use people first language
• Move from what to how
• Disparities
• Use authority to set standards for ECE
• Agree on consistent messages and strategies
• Align with other efforts: - Let’s Move, YMCA, United Way, hospitals, community-based organizations
• Invest in strategies with co-benefits
• Institute measures that capture progress
Let’s Move Initiatives

- Let’s Move Outside (Parks and Recreation)
- Let’s Move Cities, Towns, & Counties
- Chefs Move to Schools
- Let’s Move Salad Bars to School
- Let’s Move Child Care Challenge
- Let’s Move in Indian Country
- Let’s Move Active Schools
- Drink Up!