

Treatments for Eating Disorders and Obesity in Youth

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Overview

- Overweight
 - Definition
 - Treatment
- Eating Disorder
 - Definition
 - Treatment
- Implications for youth tobacco cessation

**How is overweight in children
defined?**

BMI Applies to Everyone

- BMI can be used from 2 years of age through adulthood
- However, BMI changes substantially with age
- Therefore, BMI is used differently to define overweight in children than it is in adults

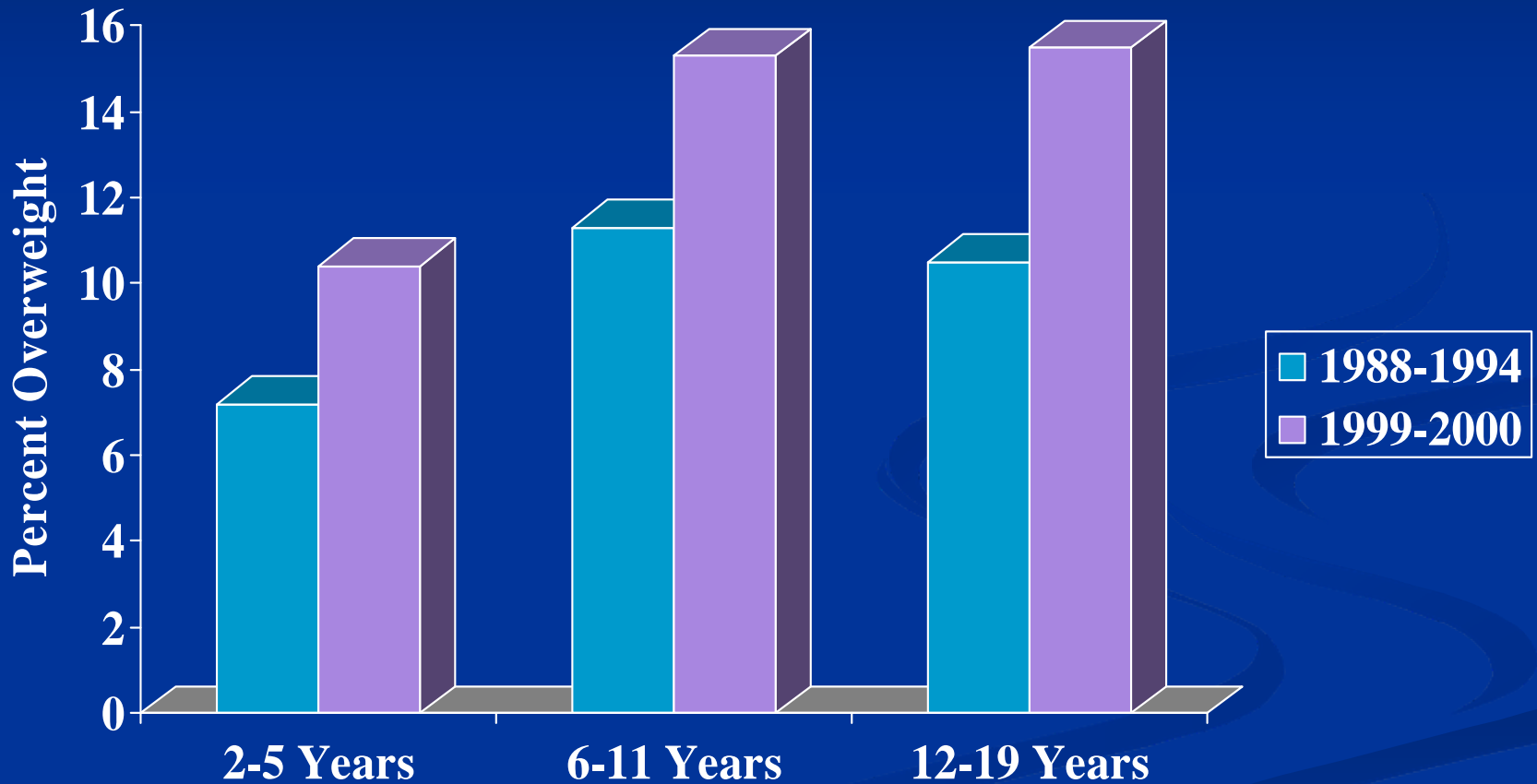
Classifications for BMI

Ages 2 - 20

*Centers for Disease Control and Prevention (CDC, 2000)

	BMI for Age and Sex
At Risk for Overweight	85 th to 95 th Percentile
Overweight	≥ 95 th Percentile

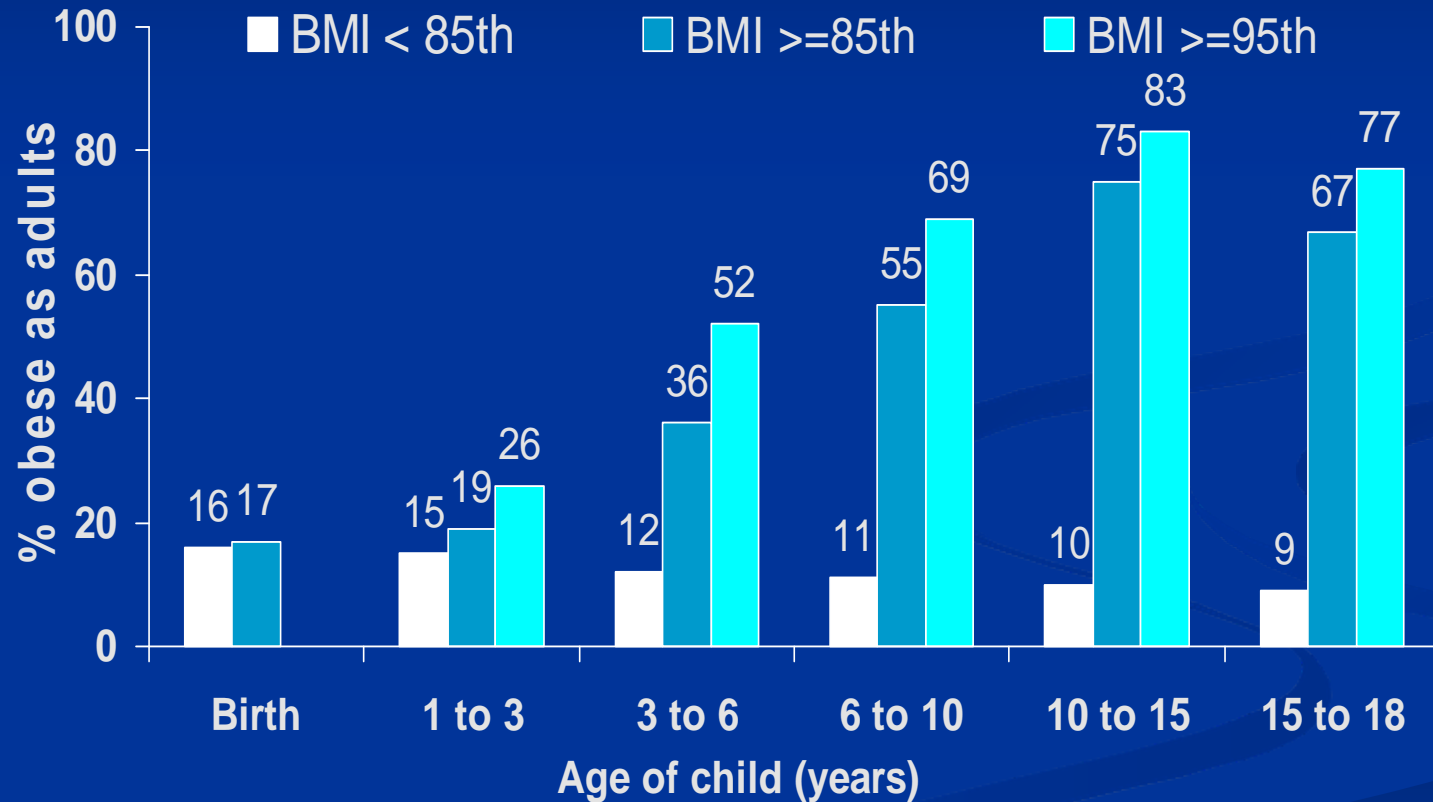
Overweight in Children and Adolescents



Consequences of overweight

- Obese children suffer the same medical consequences that obese adults do:
 - Hypertension
 - Hyperinsulinemia
 - Type 2 diabetes
 - Hyperlipidemia
 - Sleep apnea
- Overweight children suffer psychological and social consequences as well
 - Decreased self concept
 - Teasing and social stigma

Tracking BMI-for-Age from Birth to 18 Years with Percent of Overweight Children who Are Obese at Age 25



How is overweight in youth
treated?

Treatments of Overweight Youth

1. Behavior Therapy
2. Pharmacotherapy
3. Surgery

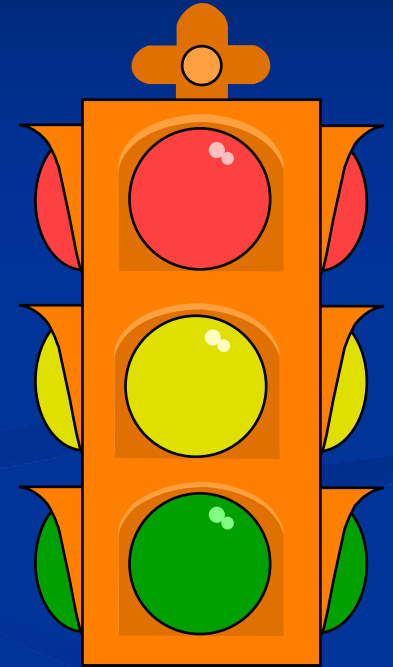
Behavioral Weight Management

Elements of Successful Programs

- Use balanced calorie-deficit diets
- Emphasize physical activity
 - Increase lifestyle activity
 - Decrease sedentary behavior
- Incorporate state-of-the-art behavioral strategies
- Target parents as well as children

Stoplight Diet*

- Green -- Go ahead
 - Nutrient dense, lower calorie
- Yellow--Proceed with caution
 - Nutrient adequate, more calories
- Red--Stop!! Think before you eat
 - High in fat, sugar, and “empty” calories



*Epstein & Squires, 1988

Behavioral Targets

- Decrease intake of high fat, high calorie, low nutrient foods
- Increase intake of lower fat, lower calorie, nutrient dense foods
- Decrease sedentary behaviors like TV
- Increase activity and exercise





Decrease
Intake

Increase
Activity

Behavior
Modification
Strategies



Behavior Modification Strategies

- Psychoeducation
 - Select target of behavior change and provide information about problem
- Goal-setting
 - Set specific, reasonable, and attainable goals

Behavior Modification Strategies

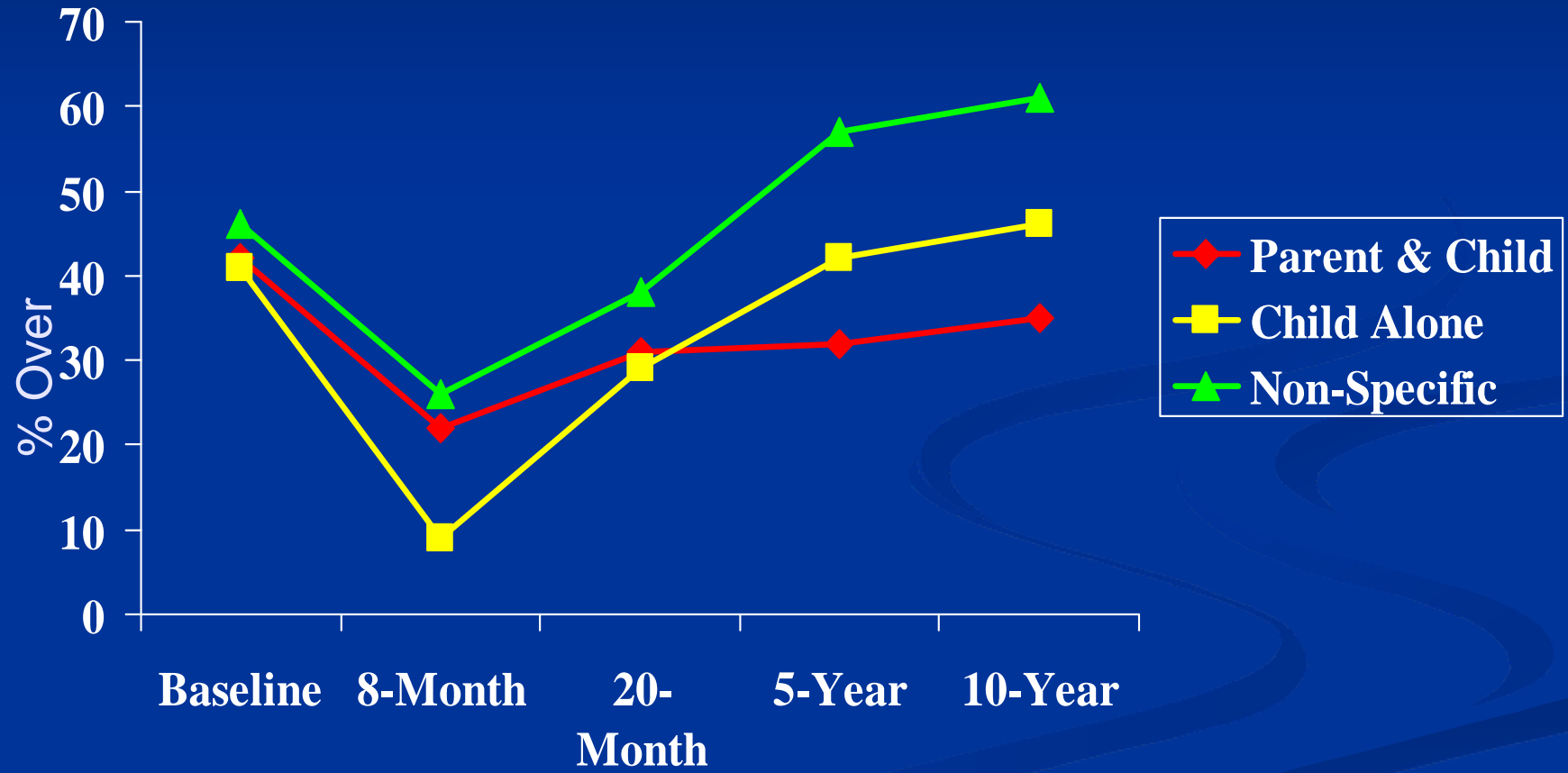
- Self-monitoring
 - Observe and identify factors associated with targeted behavior
- Stimulus control
 - **Antecedents** → Behavior → Consequences
 - Modify cues that precede targeted behavior (environment, behaviors, thoughts)

Behavior Modification Strategies

- Reinforcement or punishment
 - **Antecedents → Behavior → Consequences**
 - Change consequences of targeted behavior
 - Contracting frequently used with children



Target Parents: Ten-Year Follow-Up of Behavioral Family- Based Treatment for Obese Children

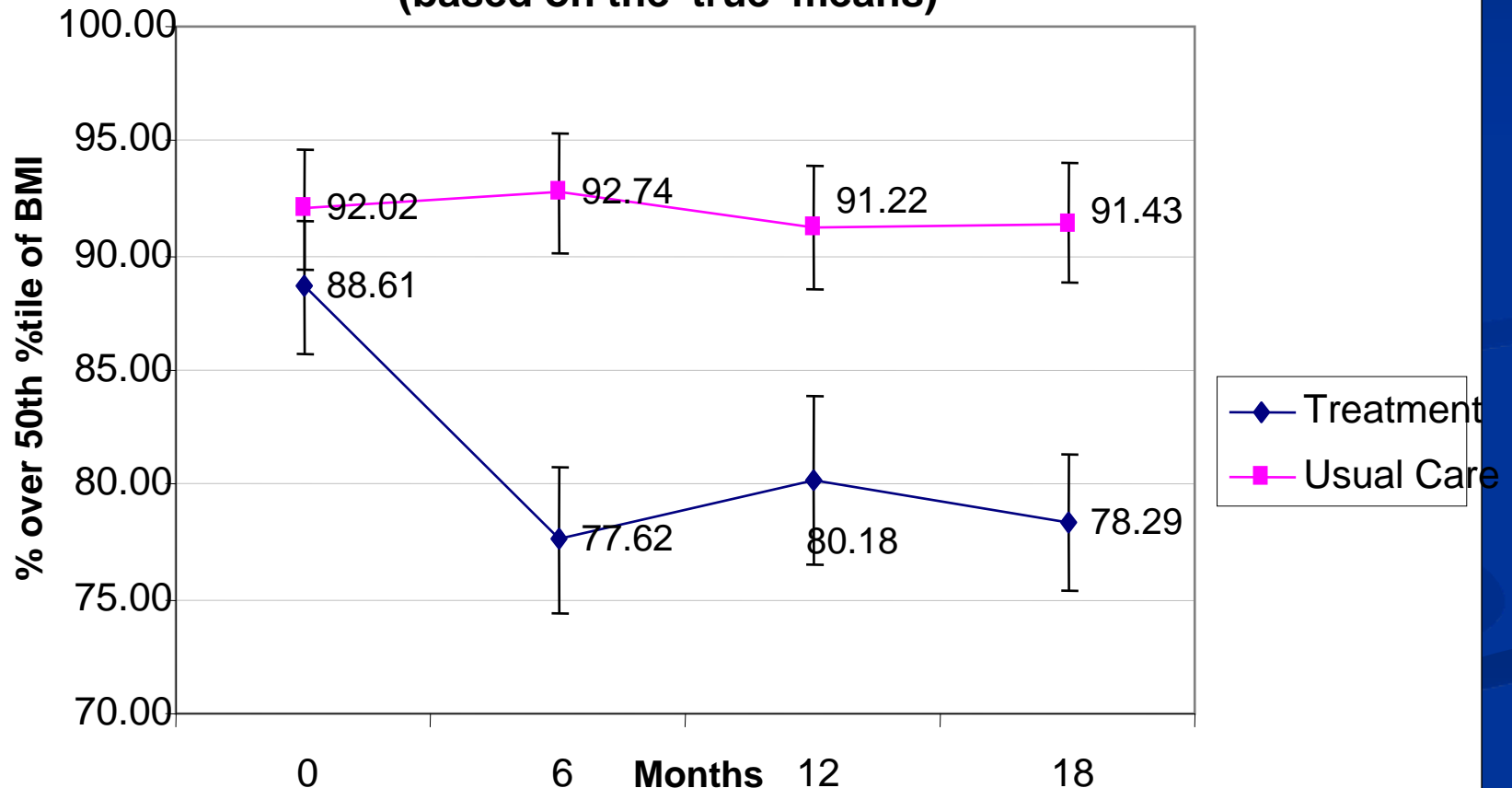


Does Family-Based Treatment Work among Severely Overweight Children?

- The greatest increase in obesity prevalence has been among the heaviest children
- However, few studies have focused on the treatment of severely overweight children

Change in % Over 50th Percentile of BMI

% over 50 percentile of BMI change over time,
restricting continuously attended participants
(based on the 'true' means)



Does Family-Based Treatment Work among Severely Overweight Children?

- Yes:

- Intensive family-based intervention appears to be associated with modest decreases in overweight relative to usual care
- Families with lower SES may be at increased risk for early attrition and poor attendance

Behavioral Treatment Caveats

- Not all children have parents or guardians willing to participate
- There is less evidence of the utility of family-based behavioral treatment for with ethnically and economically diverse samples
- The availability of well-trained behavior therapists is limited

Treatments of Overweight Youth

1. Behavior Therapy
2. Pharmacotherapy
3. Surgery

Pharmacotherapy

- There currently are no approved drugs for the treatment of pediatric obesity
 - Only those with a BMI \geq 95th percentile plus an obesity-associated medical condition should be considered for medication trial

Pharmacotherapy

■ Orlistat

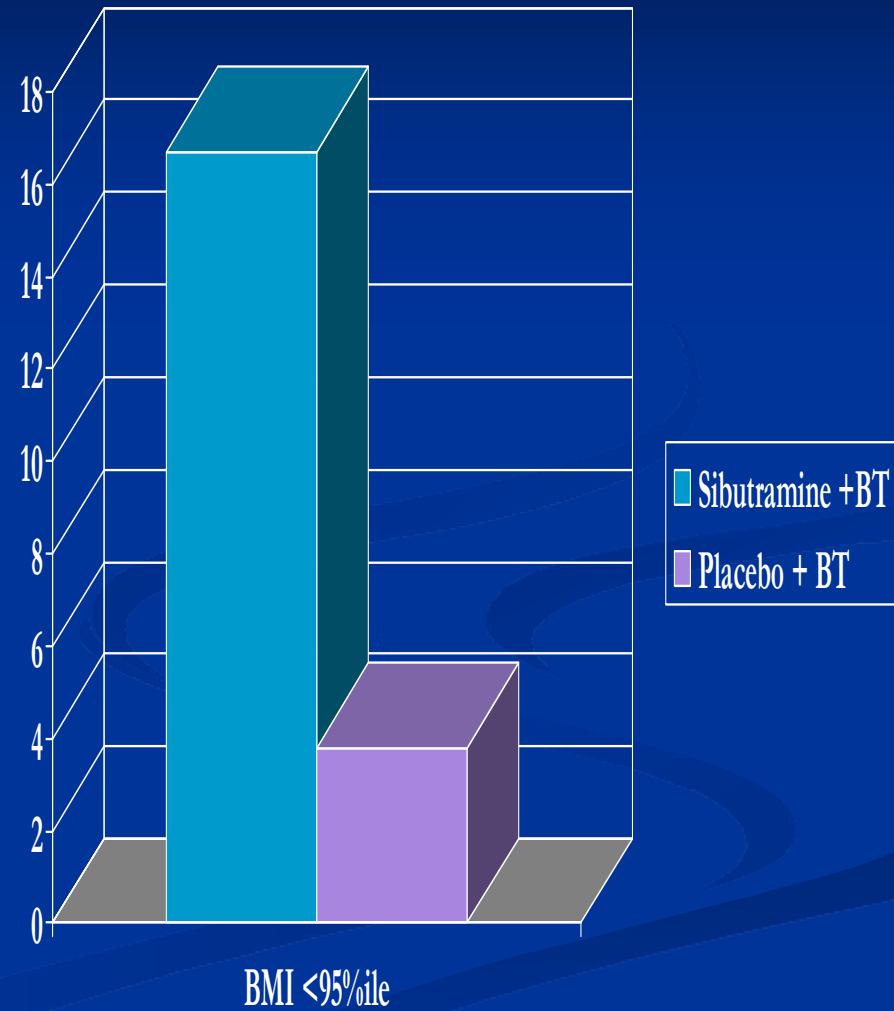
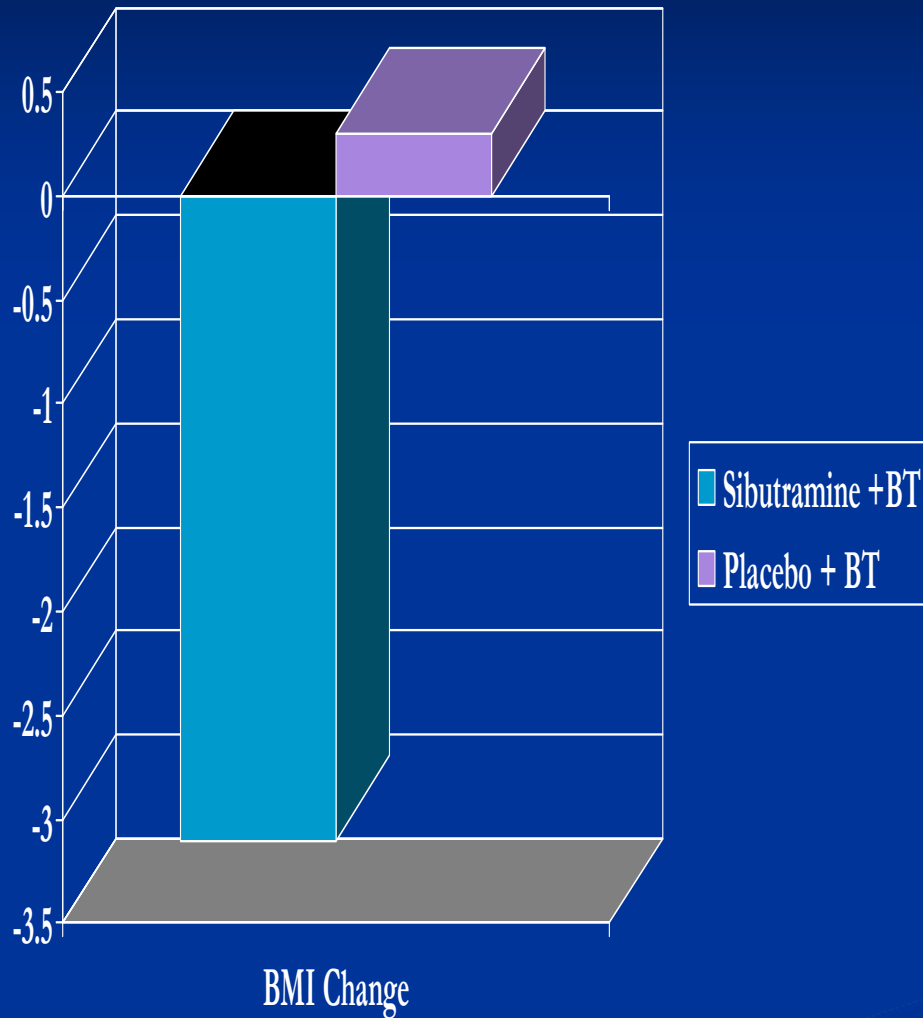
- Lipase Inhibitor
- Modest effects in adults over 1-year period
- Appears to be well-tolerated, safe and potentially efficacious in adolescents over a three-month period [McDuffie et al., 2002]

Pharmacotherapy in Pediatric Population

■ Sibutramine

- Noradrenergic-serotonergic inhibitor
- Moderate effects over 2-year period in adults
- Sibutramine plus BT superior to BT alone in adolescents in a six-month trial [Berkowitz et al., 2003]

Sibutramine for Obese Adolescents



Treatments of Overweight Youth

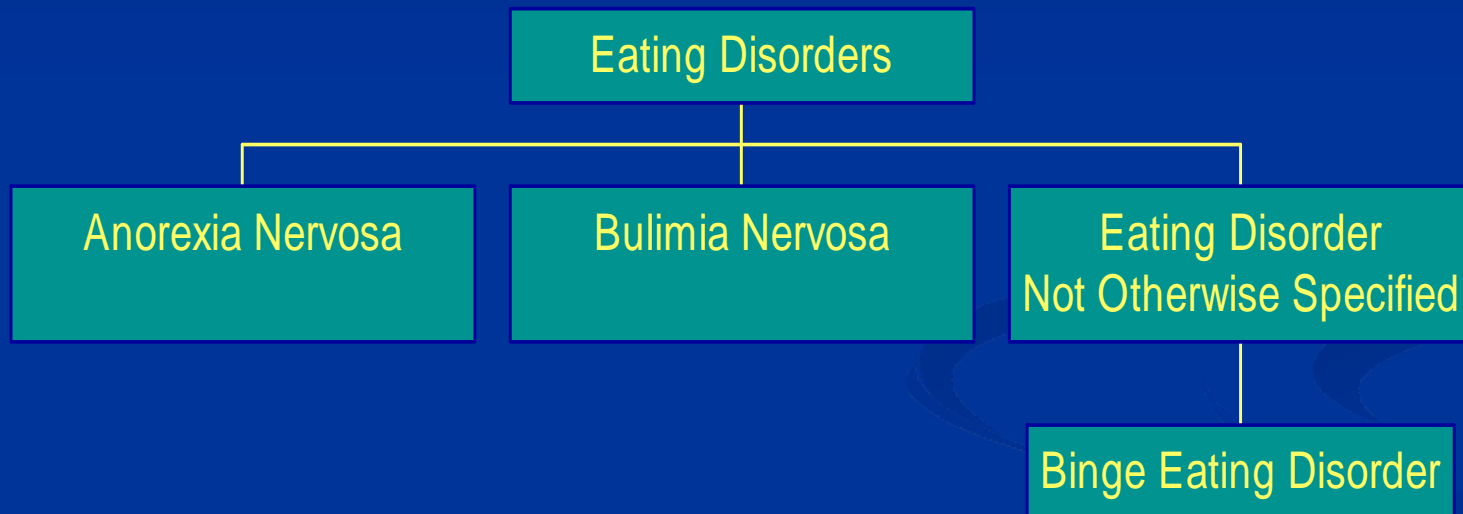
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Surgery for Adolescents

- Adolescents represent 0.73% of patients undergoing bariatric surgery
- Rate among adolescents was 3-fold higher between 2000 and 2003 compared to 1996-2000
- Overall, the number of surgeries is small and data to fully evaluate the risks and benefits are lacking

How are eating disorders in
children defined?

Eating Disorder Diagnoses



Diagnosis of EDs in Children

- Problems with current eating disorder diagnostic schemes for children and young adolescents
 - May not meet weight loss criteria due to growth
 - May not acknowledge psychopathological correlates of disordered eating
- Accordingly, childhood EDs may not be recognized

How are eating disorders in youth
treated?

Family Therapy in AN & BN

- Compared one year of individual supportive therapy versus family therapy
 - Early onset AN patients [≤ 18 years] with shorter duration of illness [≤ 3 years] had a better outcome with family therapy
 - Later onset patients benefited more from individual therapy
 - Individuals with longer duration or BN had a poor outcome regardless of treatment

Five Year Follow-Up

- Significant improvements in the overall group were seen at 5-year follow-up:
 - Benefits favored family therapy in patients with early onset and short duration of illness
 - Benefits favored individual treatment in patients with later-onset AN

Conjoint or Separate Family Therapy?

- Randomized to either conjoint family therapy [patient and parents treated together] or separated family therapy [patient and parents treated separately]
- Patients in both conditions showed significant and similar benefits from treatment on
 - Weight gain
 - Psychological functioning
 - Family functioning
- Separate treatment was associated with greater improvements in eating disorders symptoms

Pharmacotherapy for EDs

- Medication trials with adults:
 - Have documented short term efficacy of antidepressant medications in BN
 - Have suggested potential utility of antidepressants, particularly fluoxetine, for relapse prevention in AN
- Results may not generalize to younger adolescents

Summary

- The evidence base for the treatment of AN is limited
- There is very limited data relating to the treatment of eating disorders in children

Implications for Youth Tobacco Cessation Research

Treating Obesity and Smoking Cessation in Youth

Similarities

- Treatments follow adult literature
- Behavioral treatments
- Parent/Family involvement
- Focus on prevention
- Reward systems

Differences

- Goals
 - abstinence vs. moderation
- Number of behavioral targets
 - smoking vs. eating and activity
- Recognition of obesity as chronic condition

Resources

Websites

- Weight-Control Information Network (WIN), of NIDDK, has materials on weight control, obesity, physical activity, and nutrition
 - www.niddk.nih.gov/health/nutrit/nutrit.htm
- NHLBI Portion Distortion
 - <http://hin.nhlbi.nih.gov/portion/>
- American Academy of Pediatrics
 - <http://www.aap.org/obesity/family.htm>
- Institute of Medicine – Preventing Childhood Obesity: Health in the Balance
 - <http://www.iom.edu/report.asp?id=22596>
- Food Pyramid for Kids
 - <http://www.usda.gov/cnpp/KidsPyra/PyrBook.pdf>
- Academy for Eating Disorders
 - www.aedweb.org
- National Eating Disorders Association
 - www.nationaleatingdisorders.org