

A Psychiatric Perspective on Obesity and Eating Disorders in Children and Adolescents

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December 3, 2011

December 3rd,
2011

Disclosures



- No financial conflicts of interest to disclose

Topics Today

- Obesity
- Eating disorders
- Key points



Obesity

The Obesity Epidemic

- ~17% of youth 2-19 are obese
- Has almost tripled since 1980
- Significant racial and ethnic disparities
 - 26.8% among Mexican-American boys
 - 29.2% among non-Hispanic black girls

<http://www.cdc.gov>. Data from the National Health and Nutrition Examination Survey 2007-2008

Definitions of Obesity and Overweight

- Overweight BMI $\geq 85^{\text{th}}$ percentile for age and sex
- Obese: BMI $\geq 95^{\text{th}}$ percentile for age and sex
- Not a psychiatric disorder

Biological Contributors to Obesity

- <10% with identifiable medical cause
- Genetic factors account for $> \frac{1}{2}$ of variance in body weight
 - ▣ Hundreds of potential loci
 - ▣ Expression related to environmental conditions
- Elaborate physiological appetite control system
- Medications

Social Contributors to Obesity

- Decreased physical activity
- Increased sedentary activity
- Diet
- Low SES
- Family
 - Parent modeling, instruction and reinforcement
 - Positive effect of 3 or more family meals per week
(Hammons, 2011)

Psychological Contributors to Obesity

- Food as a comfort/coping strategy
- Impulsivity
- Failure to recognize hunger/satiety cues
- Intense, immediate positive reinforcement from food
- Negative perception of/low reinforcement from physical activity
- High reinforcement from sedentary activities

Medical Consequences of Obesity

- Cardiovascular disease
- Hypertension
- Increased mortality in adulthood
- Diabetes, complications
- Sleep apnea
- Orthopedic problems
- Fatty liver disease
- Gallstones
- Dyslipidemia
- Metabolic syndrome
- Pseudotumor cerebri
- And more...

Social Consequences of Obesity

- Social stigma
- Teasing
- Poor academic performance/fewer years of education
- Lower family income/higher poverty rates
- Lower marriage rates
- Poorer peer relationships
 - ▣ Longitudinal Study of Australian Children (3363)
 - ▣ Increased BMI at 4-5yo associated with more peer problems at 8-9yo per parent and teacher report

Psychological Consequences of Obesity

- ❑ Negative body image
- ❑ Feelings of worthlessness
- ❑ Poor self esteem
- ❑ Psychiatric disorders
- ❑ Behavioral problems
- ❑ Eating disordered behavior

Obesity and Self Esteem

- Females are at greater risk for low self-esteem
 - ▣ Increases with severity of obesity
 - ▣ Worse with dieting
 - ▣ Worsens when becomes an adolescent
- High levels of parental concern and restriction of access to food may increase problems with self esteem

Obesity and Self Esteem

- Possible protective factors
 - Culture
 - Parental acceptance
 - Parental lack of concern
 - Viewing physical appearance as unimportant
 - Underestimating body weight

Obesity and Psychiatric Disorders

- Most obese youth do not have a psychiatric diagnosis
- Studies have been inconsistent
- Bi-directional
- Some youth more susceptible to developing psychiatric symptoms, e.g.:
 - ▣ Females
 - ▣ Poorer body image
 - ▣ Genetic predisposition

Obesity and Depression

- Bi-directional relationship
 - Meta-analysis (Luppino, 2010)
 - Obese persons with 55% increase risk of developing depression
 - Depressed persons with 58% increased risk of become obese
- Potential for vicious cycle of mood symptoms and eating/activity behaviors

Obesity and Eating Disorders

- 30% of obese adolescents have binge eating disorder
 - ▣ Obese adults who binge eat are more impaired psychologically and socially
- Dieting is a risk factors for disordered eating

Similarities between Obesity and Addiction

- Powerful Immediate reinforcement
- Significant long-term negative consequences
- Genetic vulnerability
- Increase in problem behavior when substance is cheap and available
- Similar neurologic pathways?

Factors to Consider before Treatment

- Possible medical cause?
- Psychiatric symptoms/eating disordered behavior?
 - ▣ Consider mental health evaluation and treatment
- Substance abuse?
 - ▣ Effect on adherence
- Specific causal and maintaining factors
 - ▣ Treatment should be individualized
- Readiness to change lifestyle

Assessing Readiness to Change

- Youth and parents
- Signs that child or family is not ready to change
 - ▣ Lack of concern about child's obesity
 - ▣ Belief that obesity is inevitable
 - ▣ Belief that child is not capable of losing weight
- Consider motivational interviewing

Motivational Interviewing

- Goal is to increase motivation to change
- Change talk is elicited from patient, rather than imparted by provider
- Has shown effectiveness in many types of behavior change, including
 - ▣ Adults with obesity
 - ▣ Teens with substance use
- Can be used at any point in treatment
 - ▣ Screening, preventive counseling, treatment, maintenance

5 Principles of Motivational Interviewing

- Express empathy
- Develop discrepancy
- Avoid argumentation
- Roll with resistance
- Support self-efficacy

<http://www.motivationalinterview.org>

Specific MI Strategies

- Ask open-ended questions
- Listen reflectively
- Affirm
- Summarize
- Elicit self-motivational statements

<http://www.motivationalinterview.org>

Effectiveness of Obesity Treatment

- Most interventions lead to small changes in weight
- Relapse is substantial
- Likely to be ineffective:
 - ▣ General advice only
 - ▣ Diet only
- “Lifestyle” interventions most likely to be effective
 - ▣ Multicomponent
 - ▣ Family-based
- Longer treatment duration may be necessary

Components of Treatment

- Focus on motivation/readiness to change
- Reduce caloric intake
- Increase activity level
- Decrease sedentary behavior
- Active parent/family involvement
- Dietary counseling
- Behavioral counseling
- Relapse prevention

Behavioral Modification, Theory

- Eating and activity are learned behaviors that can be changed
- The environment must be modified to shape behavior
- Parental weight loss predicts child weight loss

Behavioral Modification, Goals

- Primary goal is to develop healthy patterns of eating and physical activity
- Develop awareness patterns of eating, activity and parenting
- Modify behavior in small, permanent steps
- Increase parents skills
 - ▣ Modeling
 - ▣ Reinforcement
 - ▣ Stimulus control techniques
- Allow children to maintain a sense of control
- Develop skills for maintenance and relapse prevention

Behavioral Modification, Strategies

- Self-monitoring of weight, eating, activity
- Goal setting and contracting
- Behavioral reward system for goal completion
- Make additional changes only once previous changes firmly in place
- Stimulus control (cues, opportunities)
 - Restructure home to encourage health behavior/limit unhealthy behavior
- Increase reinforcing value of physical activity relative to sedentary activity
- Increase energy expenditure in everyday activities
- Make physical activity part to the routine
- Parents act as role models by monitoring and modifying their own behaviors

Medications/Surgery

- Extremely important to weight risks and benefits
- Data in youth limited
- No medications FDA approved for obesity in children under 12

Psychological Effects of Treatment

- Potential positives:
 - ▣ Improvement in self esteem
 - Possibly related to non-specific treatment effects
 - ▣ Improvement in social and psychological problems?
- Potential negatives:
 - ▣ Risk of demoralization if unsuccessful
 - ▣ Development of eating disordered behavior
 - Calorie restriction can lead to binge-eating
 - Dieting in adolescent girls can lead to bulimic symptoms

Effects of Psychiatric Medications on Weight*

- Medications that may cause weight loss
 - ▣ Stimulants, topiramate, zonisamide, bupropion
- Medications that may cause weight gain
 - ▣ Lithium, tricyclic antidepressants, some MAOIs, valproate, gabapentin, pregabalin, carbamazepine, vigabatrin, most atypical antipsychotics, some typical antipsychotics, mirtazapine, paroxetine, antihistamines
- Medications that are typically weight neutral
 - ▣ Most SSRIs, venlafaxine, lamotrigine, ziprasidone, buspirone, benzodiazepines, alpha agonists

Powers, 2008; Zametkin, 2004;
PAL Conference, December 3rd, 2011
Crocker, 2011

*List not fully inclusive. Individuals may have a different response.

Psychiatric Medications and Weight

What to do when medications cause unwanted weight gain:

- ❑ Consider non-pharmacologic treatments and/or alternative medications
- ❑ Lifestyle changes/behavior modification
- ❑ Pharmacologic treatment for medication-induced weight gain has been studied
 - ❑ Additional risk of side effects, possible medication interactions, potential effect on underlying condition
 - ❑ There have been small, but promising studies of metformin in adolescents taking atypical antipsychotics*

Zametkin, 2004; Lessig, 2001;
PAL Conference, December 3rd, 2011
Ellinger, 2010

*Not FDA approved for this use

Eating Disorders

Epidemiology of Eating Disorders

- Lifetime prevalence ~ 5%
- Onset before 20 in 85% of patients
- BN and AN 8-10 times more prevalent in females than males
 - ▣ 5-10% of all EDs in males
- More common in Westernized societies
- Increasing prevalence in males, minorities, and younger youth

Prevalence of Eating Disorders

- Anorexia nervosa
 - ▣ Lifetime prevalence 0.5-1%
 - ▣ 0.5% adolescent girls
- Bulimia nervosa
 - ▣ Lifetime prevalence of 1%
 - ▣ 1-2% adolescent girls
- Eating disorder not otherwise specified
 - ▣ Prevalence up to 14%,
 - ▣ Most common ED diagnosis (>50%)
- Binge Eating Disorder
 - ▣ Lifetime prevalence of 3%
 - ▣ 29% of adults seeking weight treatment

Course

- Majority of patients fully recover
- Course can be protracted
- Significant medical consequences, short and long term; can be fatal
- Better prognosis
 - ▣ Earlier age of onset
 - ▣ Shorter duration of symptoms (AN)
 - ▣ Better parent-child relationship
 - ▣ Binge Eating disorder vs AN or BN
- Poorer prognosis
 - ▣ Purging behavior
 - ▣ Physical hyperactivity
 - ▣ More significant weight loss
 - ▣ Longer duration of symptoms
 - ▣ Somatic and psychiatric comorbidity

Risk and Maintaining Factors

- Genetics
 - ▣ Behavioral traits
 - ▣ Abnormalities in self-regulatory systems of appetite
 - ▣ Interaction with environment
- Female sex
- Societal value on thinness
- Criticism, teasing and bullying focused on food/weight/shape
- Dieting
- Athletes, performers
- Neglect, abuse
- Effect of starvation on the brain

Evaluation in the Primary Care Setting

- Screen for EDs at annual visits or sports exam
 - ▣ Deviations from growth chart for weight, BMI
 - ▣ Screening questions
- Further evaluation if any evidence of excessive weight concerns, inappropriate dieting, concerning pattern of weight loss
- May deny symptoms
 - ▣ When an adolescent is referred by someone else, disordered eating is likely

Example Screening Questions, Bright Futures

- **How do you feel about the way you look?**
 - ▣ How do you feel about your weight?
 - ▣ Are you trying to change your weight? How?
 - ▣ Are your periods regular?
 - ▣ What do you usually eat for breakfast? At lunchtime? For snacks?
 - ▣ Do you and your family usually eat dinner together at night?
- **Do you ever fast, vomit, or take laxatives or diet pills to control your weight?**

Example Screening Questions, SCOFF Questionnaire

- Do you make yourself **Sick because you feel uncomfortably full?**
- Do you worry you have lost **Control over how much you eat?**
- Have you recently lost more than **One stone (6.3 kg, 14 lb) in a 3 month period?**
- Do you believe yourself to be **Fat when others say you are too thin?**
- Would you say that **Food dominates your life?**

Scoring: One point for every “yes”; a score of ≥ 2 indicates a likely case of anorexia nervosa or bulimia*

Evaluation in the Primary Care Setting

- Establish diagnosis
 - ▣ Review ED diagnostic criteria
 - ▣ Rule out other causes of symptoms
- Evaluate medical and nutritional status
 - ▣ Comprehensive history/review of systems
 - ▣ Comprehensive physical examination
 - ▣ Labs / other studies
- Psychosocial assessment
- Assess parent's reaction to illness
- Refer for further evaluation if necessary
- Refer for treatment

Anorexia Nervosa

- DSM IV Diagnostic Criteria
 - ▣ Body weight less than 85% of that expected
 - ▣ Intense fear of gaining weight/becoming fat
 - ▣ Overvalued ideas about weight/shape, or denial of seriousness of low weight
 - ▣ Amenorrhea
- Subtypes
 - ▣ Restricting
 - ▣ Binge-eating/Purging
- Potential associated symptoms:
 - ▣ Perfectionism
 - ▣ Rigid thinking
 - ▣ Preference for predictability

Bulimia Nervosa

- DSM IV Diagnostic Criteria
 - ▣ Recurrent episodes of binge eating (large amount in discrete period of time with sense of lack of control)
 - ▣ Compensatory behavior to prevent weight gain
 - Self-induced vomiting, substances, exercise
 - ▣ At least twice a week for 3 months
 - ▣ Overvalued ideas about weight/shape
 - ▣ Not exclusively during AN
- Potential associated symptoms
 - ▣ May be overweight
 - ▣ Binges tend to include high-sugar and high-carb content
 - ▣ Binges often follow injury to self esteem

Eating Disorder NOS

- Examples (DSM IV):
 - AN criteria with normal weight or regular menses
 - BN criteria less than twice weekly for 3 months
 - Compensatory behavior without binge episodes
 - Chewing and spitting out, but not swallowing food
 - Binge Eating Disorder

Binge Eating Disorder

- Often associated with obesity
- DSM IV “Proposed” Criteria
 - ▣ Recurrent binge episodes
 - ▣ Marked distress about binges
 - ▣ At least 2 days a week for 6 months

Differential Diagnosis of Eating Disorders

- Gastrointestinal disorders
- Endocrine disorders
- Other psychiatric disorders
 - ▣ OCD/other anxiety
 - ▣ Substance abuse
 - ▣ Depression
- CNS lesions
- Cancer
- SMA
- More...

Psychosocial assessment

- Ask about associated eating disordered behaviors
- Assess willingness to receive help
- Assess functioning at home, school, with peers
- Assess for psychiatric comorbidity
- Ask about use/misuse of substances
- Suicidal ideation/history of self harm
- History of abuse

Other Eating Disordered Behaviors

- ❑ Strict rules about eating (e.g. time of day)
- ❑ Prolonged fasting
- ❑ Ritualized preparation and consumption
- ❑ Extreme/restrictive diets
- ❑ Secret eating
- ❑ Social competitiveness around eating
- ❑ Eating alone because of embarrassment
- ❑ Feeling disgusted, depressed after eating
- ❑ Limited or excessive fluids
- ❑ Repeated weighing, pinching, checking measuring body
- ❑ Comparison with others' bodies
- ❑ Body avoidance
- ❑ Involvement in pro-ED websites

Psychiatric Co-Morbidities

- Rule, rather than exception (80% BN)
- Younger patients more likely to have preexisting psychopathology
- Ask about symptoms of:
 - ▣ Depression
 - Lifetime prevalence up to 70% in AN and BN
 - ▣ OCD and other anxiety disorders
 - Lifetime prevalence up to 65% in AN and BN
 - ▣ Substance abuse
 - Lifetime prevalence approximately 25% in BN
- Personality disorders/traits
- Suicidal ideation/behavior

Multidisciplinary Team Approach

- Medical provider
- Nutritionist
- Mental health provider
- Social work support, if indicated

Anorexia Nervosa

- Medical stabilization/nutritional rehabilitation
 - ▣ Most related to short term outcomes
 - ▣ Necessary for effective mental health treatment to occur
- Family-based therapy approach for adolescents well-established
 - ▣ If family therapy not possible/contraindicated, refer for individual therapy
- Psychiatric medications
 - ▣ Should not be first line
 - ▣ No FDA approved medications for AN

Family-Based Therapy “Maudsley” Approach

- Phase one: Refeeding
 - ▣ Parents are supported by therapist to take responsibility for their child’s eating/ED behaviors, present united front
- Phase two: Negotiations for New Pattern of Relationships
 - ▣ Other family issues introduced, relevant to the ED
 - ▣ Adolescent helped to take responsibility for own eating
- Phase three: Termination
 - ▣ Focus on healthy relationship between patient and parents
- Cautions
 - ▣ Families with severe psychopathology
 - ▣ Very medically compromised patients

Psychiatric Medications, AN

- SSRIs (not FDA approved)
 - ▣ Typically targeted at comorbid depression/anxiety
 - ▣ Antidepressants do not alleviate core symptoms
 - ▣ Some data for SSRI use in relapse-prevention in weight-recovered adults, not replicated
- Antipsychotics (not FDA approved)
 - ▣ No evidence that they promote weight gain
 - ▣ RCTs in adults (olanzapine) have suggested improvement in ED symptoms, depression and obsessiveness in adults
 - ▣ Recent RCT in 12-21 yo females (risperidone) found no effect on ED symptoms, anxiety, depression

Bulimia Nervosa

- Psychotherapy
 - ▣ Strong evidence for CBT in adults
 - ▣ Family therapy possibly efficacious for adolescents
 - ▣ CBT has similar efficacy to family therapy, and may have slight advantage in older adolescents

Bulimia Nervosa

- Psychiatric medications
 - ▣ Only fluoxetine is FDA approved (adults, 60 mg)
 - 6 RCTs in adults
 - Reduce binge frequency, but remission rates low
 - One open trial in 10 adolescents → decreased binge/purge behavior
 - ▣ Other medications have been studied, not FDA approved
 - E.g. TCAs, topiramate, ondansetron
 - ▣ Special cautions
 - Bupropion – seizure risk
 - Antidepressants – Black box warning

Binge Eating Disorder

- Psychotherapy
 - ▣ No controlled studies in pediatric patients
 - ▣ CBT effective for reducing binge frequency/binge abstinence in adults
 - ▣ Behavioral weight loss treatments have led to moderate reduction in weight and binge abstinence in adults
- Psychiatric medications (none FDA approved)
 - ▣ Not proven to be more effective than CBT
 - ▣ SSRIs most studied (adults)
 - Short-term reduction in bingeing overall
 - Some studies negative
 - ▣ Moderate weight loss and binge remission with medications used in obesity (adults)
 - ▣ No studies in youth

Indications for Inpatient Treatment

- Serious medical risk
- Very low weight (< 75% IBW)
- Rapid weight loss
- Ongoing weight loss with treatment
- Psychiatric risk
- Escalating or severe symptoms
- Failure of outpatient treatment
- Lack of psychosocial resources



Key Points

Key Points

- Focus on healthy lifestyle and self-esteem when addressing weight concerns
- Assess readiness and work with child and family to enhance motivation to change
- Encourage parent modeling and support
- Changing environment and reinforcing factors is necessary to maintain behavior change
- Monitor for psychiatric symptoms and eating disordered behaviors in obese youth
- Work on decreasing sedentary behaviors in addition to increasing physical activity for obese youth

Key Points

- Consider potential effects of psychiatric medications on weight
- Most eating disorders in youth do not fit specific criteria of AN or BN
- Use a multidisciplinary approach to eating disorders
- Youth with AN should be referred for family therapy unless there are specific reasons not to do so
- Medication should not be used as primary treatment for pediatric eating disorders
- Youth with EDs often have comorbid psychiatric problems

Questions?

Contact info:

www.palforkids.org

866-599-7257

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Welcome

The Partnership Access Line (PAL) is a telephone based child mental health consultation system funded by the state legislature, being implemented now in Washington State. PAL employs child psychiatrists, child psychologists, and social workers affiliated with Seattle Children's Hospital to deliver its consultation services. Though PAL is only contracted to provide service to 1/3rd of the state, at this time the PAL team is making itself available to any primary care provider throughout Washington.

Washington's primary care providers are encouraged to call the PAL toll free number 866-599-7257 as often as they would like. PAL provides rapid consultation responses during business hours (M-F, 8-5) for *any* type of child mental health issue that arises with *any*

More Information

What does a provider get by calling PAL?

- immediate phone advice from an expert
- free tools to help you and your patient (like patient advice handouts, rating scales, local resource lists tailored to your patient, etc.)

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