Understanding Predisposing and Precipitating Factors for Eating Disorders: What Every Parent Needs to Know

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Eating Disorders (Eds)

Bio-psycho-social Illnesses
Fundamental Premises in conceptualizing EDs

- Psychiatric illnesses with high medical morbidity and mortality
- Very limited evidence to support our interventions (but growing)
- Affect people from all walks of life, both genders, all races and ethnicities and nearly all ages
Topics for discussion

- What causes an eating disorder?
- Understanding predisposing factors
- Understanding precipitating factors
Topics for discussion

- What causes an eating disorder?
Eating Disorders
Familial Genetics

- If 1\textsuperscript{st} or 2\textsuperscript{nd} degree relative with ED, the increase in relative risk is:
  - 12-fold for Anorexia Nervosa (AN)
  - 4-fold for Bulimia Nervosa (BN)
Eating Disorders
Molecular Genetics

- Linkage studies – Price Foundation and NIMH
  - Anorexia Nervosa – chromosome 1
  - Bulimia Nervosa – chromosome 10
Heritability Estimates

- Statistical analysis of the probability or impact of genetics, accounting for environmental factors
- It analyzes the interaction of
  - Genetic influence
  - Shared environment influence
  - Unique environment influence
### Heritability Estimates

<table>
<thead>
<tr>
<th>Disorder</th>
<th>Heritability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autism</td>
<td>0.8 – 1.0</td>
</tr>
<tr>
<td>Schizophrenia</td>
<td>0.5 – 0.9</td>
</tr>
<tr>
<td>Bipolar Disorder</td>
<td>0.3 – 0.8</td>
</tr>
<tr>
<td>AN / BN</td>
<td>0.5 – 0.8</td>
</tr>
<tr>
<td>early MDD</td>
<td>0.5 – 0.75</td>
</tr>
<tr>
<td>OCD</td>
<td>0.5 – 0.7</td>
</tr>
<tr>
<td>Obesity</td>
<td>0.4 – 0.7</td>
</tr>
</tbody>
</table>

Results from Twin Studies

- Heritability of Bulimia Nervosa
  - Genetic Effects: 59-83%
  - Shared Environmental Effects: 0%
  - Non-shared Environmental Effects: 17-41%

- Heritability of Anorexia Nervosa
  - Genetic Effects: 58-76%
  - Shared Environmental Effects: 0%
  - Non-shared Environmental Effects: 24-42%
Heritability of Anorexia Nervosa

- Non-identical twins 5%
- Identical twins 56%

- Bulik et al, 2006
Gene x Environment Interaction
Concept of Gene x environment interaction

Probability of depression at age 26; stressful life events between 22-26

Caspi et al, Science 2003;301:386
Causes of Eating Disorders
Genetic Liability

- Is there an Anorexia Nervosa or Bulimia Nervosa Gene?
  - Unlikely
  - Historical evolution of ED symptoms seems to be culturally influenced
  - Crossover phenomenon
    - 30-63% of AN → BN
    - 8-25% BN → AN
  - Spectrum of eating disordered pathology is growing
Causes of Eating Disorders
Genetic Liability

- How are eating disorders inherited?
  - Complex heritability: interaction of heritable vulnerability factors and protective factors
  - Influence of constitutionality: personality and temperamental traits
  - Influence of the environment: protective vs. promoting ("westernization")
Eating Disorders: genetics and environment

- Incidence of eating disorders
- Resistant
- Prone
- Genetic Predisposition
- Promoting environment
- Protective environment
Topics for discussion

- Understanding predisposing factors
Predisposing Factors for EDs

- Temperamental traits
- Psychiatric vulnerability
Eating Disorders in Children

- Predisposing Factors
  - Temperamental traits
    - Harm avoidance (AN and BN)
    - Novelty seeking (low AN, high BN)
    - Reward dependence (AN > BN)
    - Persistence (high in ANR)
  - Characterological Cognitive Schemes
    - Self directedness
    - Cooperation
    - Transcendence
NATIONAL COMORBIDITY SURVEY

- MEDIAN AGE OF ONSET
  - Anxiety disorder 11y.o.
  - Impulse disorder 11y.o.
  - Substance abuse 20y.o.
  - Mood disorder 30y.o.
  - 1/2 of all lifetime cases by age 14
  - ¾ of all lifetime cases by age 24
Topics for discussion

- Understanding precipitating factors
APA Survey: Stress in America

What impact does a parent’s stress have on a child?

47% tweens say they feel sad
43% teens say they feel worried
Eating Disorders in Children

- Precipitating Factors
Eating Disorders in Children

- Precipitating Factors
  - Puberty
  - Dieting and exercise as neurobiological triggers
  - High risk activities
    - Judged vs. Refereed activities
      - Points for physique
Eating Disorders in Children

- Precipitating Factors
  - Teasing
  - Bullying
  - Social shunning
  - Social contagion
  - War on obesity
In Summary

- Eating Disorders are serious illnesses
- Younger children are being affected
- Early recognition and timely intervention are critical
- Parents and caretakers have an important role in
  - Recognizing children at risk
  - Seeking assessment and treatment on a timely basis
  - Working with treatment teams as agents of change
119% increase in hospitalizations for children <12 years old with eating disorders between 1999-2006 (AHRQ)
Core References

- AAP

- SAM
  - Background Paper and Position Statement, SAM, 1995

- APA
  - Practice Guidelines for Eating Disorders, 2006

- Australian and New Zealand Clinical Practice Guidelines for AN

- Finnish Guidelines
- NICE Guidelines
- MARSIPAN Report
Thanks...