Identification and Management of Eating Disorders in Pediatric Primary Care

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Disclosures

- No financial disclosures
- Off-label use of medications will be discussed
Learning Objectives

• Describe how pediatricians should screen for and identify eating disorders, including Avoidant/Restrictive Food Intake Disorder, Anorexia Nervosa, Bulimia Nervosa, and Binge-Eating Disorder
• Understand the impact of the COVID-19 pandemic on eating disorders in youth
• List level of care options for eating disorders and specifically inpatient admission criteria
• Describe how pediatricians can be part of the interdisciplinary management team for outpatient management of eating disorders
Outline

• Definitions
• Epidemiology
• Etiology/Risk factors
• Assessment
• Medical complications
• Treatment
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• DEFINITIONS
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Avoidant-Restrictive Food Intake Disorder (ARFID)

- Disturbance in eating
  - Lack of interest in eating
  - Sensory concerns
  - Picky
  - Anticipating negative reaction to eating

- Failure to meet nutritional needs
  - Weight loss/lack of expected gain
  - Nutritional deficiency/negative impact on health
  - Needing supplementation
  - Interferes with functioning

- Not due to:
  - Lack of food
  - Religion
  - Dieting
  - AN or BN – no alteration in body perception
  - Other medical/psychiatric condition unless exceeds expected severity
Anorexia Nervosa (AN)

- Eating restriction leading to “significantly low body weight”
- Fear of gaining weight/becoming fat
  - May be seen as behaviors that interfere with gaining weight
  - Not improved generally with weight loss
- Body weight/shape perception is distorted
  - High valuation on this
  - Lack of recognition of seriousness of low weight
- Restricting type (dieting, exercise)
- Binge-eating/purging type
  - Within past 3 months, recurrent episodes of binge eating OR purging
- Severity based on BMI percentile
- Diagnosis NOT based on BMI
- Diagnosis NOT based on amenorrhea
Bulimia Nervosa (BN)

- **Recurrent binge eating**
  - Discrete period of time (eg < 2 hours)
  - Large amount of food for situation (lab studies show intake of 3600 kcal in 2 hours)
  - Sense of lack of control

- **Recurrent compensatory behaviors**
  - Vomiting: 60%
  - Laxatives: 30%
  - Diuretics: 4%
  - Excessive exercise
  - Fasting

- Binge/compensation: 1/week x 3 months

- Body weight/shape highly valued
- Not AN – weight typically normal
Binge-Eating Disorder (BED)

- **Recurrent binge eating**
  - Discrete period of time (eg < 2 hours)
  - Large amount of food for situation
  - Sense of lack of control

- **Three or more of:**
  - Eating more rapidly than normal
  - Feeling uncomfortably full
  - Eating a lot when not hungry
  - Embarrassment of eating leads to eating alone
  - Guilt, disgust, or depressed mood follows

- Binge/compensation: 1/week x3 months

- Causes marked distress
- Not AN or BN
Outline

• Definitions
• EPIDEMIOLOGY
  • Etiology/Risk factors
  • Assessment
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### Prevalence in Adolescents

<table>
<thead>
<tr>
<th></th>
<th>Females</th>
<th>Males</th>
<th>Typical Age of Onset</th>
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<tbody>
<tr>
<td>ARFID</td>
<td>?? Maybe same as AN or a little less, 1.5% of Peds GI patients</td>
<td>Early childhood</td>
<td></td>
</tr>
<tr>
<td>Anorexia Nervosa</td>
<td>0.3 – 0.7%</td>
<td>?? Female:male :: 10:1 – 1:1, Less difference prepubescent</td>
<td>14 – 18 y.o.</td>
</tr>
<tr>
<td>Bulimia Nervosa</td>
<td>1 -2%</td>
<td>0.5%</td>
<td>14 – 22 y.o.</td>
</tr>
<tr>
<td>Binge-Eating Disorder</td>
<td>2.3%</td>
<td>0.8%</td>
<td>Late adolescence to early adulthood</td>
</tr>
</tbody>
</table>
Course of Illness

• AN
  • At 10 years: 50% remit, 30% partially remitted, 20% chronic
  • At 22 years, 50% of the non-remitters achieve remission
  • 20-50% develop BN
  • Standardized mortality ratio (SMR) = 5.86
  • 20-50% of deaths are suicides

• BN
  • Symptoms present 5-10 years later: 50%
  • 53% with SI, 35% with suicide attempt
  • SMR = 1.93
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General Conceptualization

• Individual level: no idea
• Biopsychosocial
  • Dieting precedes full eating disorder in majority of cases
    • 10% of children with desire for thinness and trying to lose weight score positive for eating disorder
    • Early symptoms? Behaviors that get reinforced? Biological feature?
Biopsychosocial

• Biological
  • Genetics: risk is 7-12x higher in females with first degree relative with an eating disorder
  • Serotonin hypometabolism, reduced 5-HT2A and increased 5-HT1A

• Psychological
  • Body image distortion – see selves as fatter, taking up more space than in reality
  • AN: perfectionism, obsessive, avoidant, cognitive rigidity
  • BN: abuse, PTSD, impulsivity, perfectionism
    • Starvation => hunger => binge => guilt => purge and diet => starvation => ...
  • BED: emotional eating, acting impulsively in response to distress, low self-esteem, poor social support

• Social
  • Role of family unclear: not more controlling
  • Exposure to thin ideal
  • Role of culture unclear/complicated: people/media travel, differences in healthcare utilization
Messages Around Weight Loss

- Unclear effects from pediatricians and schools
- Don’t want to be rigid and restrictive
- Don’t want to focus on BMI/stigmatize weight
- Do want to focus on modifiable behaviors (exercise, eating variety, how/when to eat)
COVID-19 Pandemic

• Relative Risk of AN in 2020 compared to prior years = 1.15 (rising from March through December, reaching 1.5)

• Patients now seem the same as patients before
  • Similar risk factors: genetics, personality traits, **premorbid anxiety**

• Personal or family decision to diet or focus on health
  • Some wanting to avoid weight gain from sitting around the house all day, lack of sports
  • Increased use of social media
  • Some bored
  • Increased ability for teens to control diet and other aspects of life

• Huge surge impacted access to care, some of which was/is virtual
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Role of Pediatrician

• Screening and identification of eating disorder
• Performing initial evaluation of medical status
• Screening for depression, anxiety, and suicidality
• Making appropriate referrals
• Ongoing medical evaluations and coordination with outpatient team
• Prescribe medications for medical or psychiatric issues as appropriate
Screening

• At yearly physicals, sports clearances, and psychiatric evaluations
• BMI/percentile not important – look at trends
  • Failure to meet expected weight gain goals is significant
  • Stunted growth
• Menstrual history can help rule in
• SCOFF questions
  • 2+ yes’s is positive
  • Initial study 100% sensitivity, 87.5% specificity, with 18 – 40 y.o.’s with AN or BN
SCOFF

• Do you make yourself **Sick** because you feel uncomfortably full?
• Do you worry that you have lost **Control** over how much you eat?
• Have you recently lost more than **One** stone (14 lbs) 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?
Further Investigation

• Dietary habits: 24-hour food, cutting out certain foods (newly vegetarian even), restricted calories, rigid with timing

• Other eating disorder behaviors: over-exercise, binge eating, purging episodes (define), more baking without eating

• Body image and weight targets

• Time course of eating changes and weight loss, prior treatment

• Psychiatric symptoms before and since: over 50% with comorbid condition

• ROS, especially fatigue, feel cold, syncope/pre-syncope, early satiety, bloating, constipation, dry skin, hair loss, easy bruising, sleep disturbance
  • May be justification for GI work up: Celiac, lactose intolerance
Pediatric Symptom Checklist (PSC)

- **PSC-35**
  - Completed by parent of children 6-18 yrs.

- **PSC-Y-37**
  - Completed by youth 11 yrs. and up
  - Two questions to screen for suicidal ideation (#36 & #37)

- **3 Subscales** – internalizing, externalizing, attention
Screening for Depression

- AAP recommendation for depression screening - PHQ-9 (modified for teens)
- However, **PSC-Y-37** is a required NJPPC primary screening tool – captures more than just depression
  - If PSC-Y-37 internalizing subscale is positive, PHQ-9 can be used as a secondary tool for depression
Secondary Screening Tools: Suicide Risk Assessment

**ASQ:**
Ask Suicide-Screening Questions

**C-SSRS:**
Columbia - Suicide Severity Rating Scale
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Overview of Complications

• Every body system impacted
• AN and ARFID: due to weight loss
• BN and AN binge-purge type: due to method of purging
• BED: no clear link, issues related to obesity
• Almost all are reversible with weight restoration or cessation of purging
Starvation: AN and ARFID

**Cardiac**
- **Bradycardia** and hypotension with reduced exercise capacity
- Orthostatic changes can be dramatic
- MVP and small pericardial effusion not worrisome
- LV atrophy

**Gastrointestinal**
- Gastroparesis: worsened by high fiber diet, can use Metaclopramide or Erythromycin
- Constipation: can use Miralax
- LFT elevation: starvation vs refeeding

**Bone/heme**
- Osteoporosis: can be irreversible, DEXA after 9-12 months of illness or 6-9 months of amenorrhea
- Leukopenia (without increased infection risk), anemia, and thrombocytopenia

**Endocrine**
- Low estrogen, low testosterone
- No role for oral contraceptives
- T3/T4 low but TSH normal
- **Hypoglycemia** can be dramatic, asymptomatic

**Neurological**
- White and gray matter atrophy
- Cognitive impairment can be irreversible
Purging

- Vomiting
  - Dental erosions/caries
  - Parotid gland swelling
  - GERD
  - Esophageal rupture
  - Aspiration pneumonia
  - Sialadenosis on stopping

- Stimulant laxatives
  - Rectal prolapse
  - Constipation: cathartic colon

- Volume depletion => increased aldosterone, so edema develops when purging stops (use spironolactone)

- Metabolic alkalosis, hypokalemia, hypomagnesemia

- Palpitations
Labs and Other Tests

- Vitals with orthostatics
- CBC
- CMP
- Mag, Phos, Amylase
- TSH, free T4, total T3
- LH, FSH, Estradiol (females)
- Testosterone (males)
- UA
- EKG
- DEXA scan
Refeeding Syndrome

- More likely with lower % IBW
- Overly exuberant insulin response
  - Drives phosphate intracellularly
  - Increased ATP/ADP production
  - Leads to hypophosphatemia, along with hypokalemia and hypomagnesemia
  - Leads to heart failure and muscle weakness (diaphragm included)
- Start refeeding at 1400 – 1800 kcal/day, increase by 300 – 400 after 3 days aiming for 2 lbs weight gain/week inpatient, maybe 1.5 lbs/week outpatient
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Treatment Settings

- Inpatient medical stabilization
- Inpatient eating disorders
- Residential
- Partial Hospitalization Program (PHP)/Intensive Outpatient Program (IOP)
- Outpatient
  - Therapist (PhD, PsyD, LCSW, LPC)
  - Dietitian/nutritionist
  - Psychiatrist
  - Adolescent Medicine vs Primary Care
- Based on medical need
Inpatient Medical Criteria

- Dehydration
- Electrolyte disturbance (hypokalemia)
- EKG abnormality
- Bradycardia < 50 or < 40
- Hypotension < 90/45 with symptoms
- Hypothermia < 96°F
- Orthostatic changes
- Uncontrollable bingeing and purging
- Acute medical complication: seizure, syncope

- < 75-70% IBW
  - Determined by looking at premorbid weight trajectory
  - If always overweight, aim for BMI at 75th-85th percentile
  - If always underweight without cause, aim for BMI at 25th percentile at mid-parental height

- Failure of outpatient treatment
- Acute food refusal
Goals of Treatment

• Medical stability

• Weight restoration
  • Full remission, improved cognition, improved mood, improved quality of life for most who maintain weight for 6-9 months
  • Partial weight restoration does not impact recovery rate
  • Can lead to irreversible damage if not corrected quickly enough

• Cessation of bingeing and purging
Psychotherapies

• Family-Based Treatment (FBT)/Maudsley Family Therapy
  • Treatment of choice for AN, seems promising for BN
  • Multiple RCTs around the world since 1980s
  • Remission sustained at 3-5 year follow ups
  • Faster weight gain and reduced hospital stays compared to other family therapy
  • Early weight gain = strong predictor of recovery
  • Phase 1: parents get full control, Phase 2: gradual return of control to adolescent, Phase 3: normalcy

• Cognitive Behavioral Therapy – Enhanced (CBT-E)
  • AN, BN, BED
  • More effective in non-underweight adults compared to underweight adults

• CBT-BN (40% remission), CBT-BED (60% remission), CBT-AR
Medications

• **Anorexia Nervosa**
  - Olanzapine (Zyprexa) 2.5mg (or 1.25mg) – 15mg qHS showed more rapid weight gain in several double blind RCTs
  - Fluoxetine (Prozac) well studied and safe, but ineffective for weight gain, relapse prevention, depression, anxiety, bingeing, or purging
  - Appetite stimulants: ineffective
  - Anxiolytics: ineffective
  - Consider SSRIs for other issues when weight restored

• **ARFID**
  - Maybe Fluoxetine (Prozac)
  - Maybe Risperidone (Risperdal), Aripiprazole (Abilify), or Olanzapine (Zyprexa)

• **Bulimia Nervosa**
  - Fluoxetine (Prozac) 60mg daily reduced bingeing and purging, improved mood
  - Topiramate (Topamax) helpful but adverse effects, and weight loss might not be good
  - Bupropion (Wellbutrin) has seizure risk – avoid!!

• **Binge-Eating Disorder**
  - Lisdexamfetamine (Vyvanse) reduced bingeing, weight, and reduced relapse at 6 months
  - Topiramate (Topamax) helpful but 42-week trial had 32% retention
Referrals

• No complete list online
  • eatingdisorderhope.com
  • nationaleatingdisorders.org

• Contact your NJPPC Regional Hub

• Next slide for incomplete list of local facilities
<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
<th>Phone</th>
<th>Level of care</th>
<th>Ages</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHOP</td>
<td>Philadelphia, PA</td>
<td>215-590-1000</td>
<td>Inpatient medical stabilization</td>
<td>All</td>
<td>All</td>
</tr>
<tr>
<td>Overlook Medical Center</td>
<td>Summit, NJ</td>
<td>908-522-5757</td>
<td>Inpatient medical stabilization, PHP/IOP, outpatient</td>
<td>8-21</td>
<td>All</td>
</tr>
<tr>
<td>Princeton Center for Eating Disorders</td>
<td>Plainsboro, NJ</td>
<td>609-853-7575, 877-932-8935</td>
<td>Inpatient eating disorders</td>
<td>8-adult</td>
<td>All</td>
</tr>
<tr>
<td>RWJ/Barnabas Somerset Hospital</td>
<td>Somerville, NJ</td>
<td>800-300-0628</td>
<td>Inpatient eating disorders, PHP/IOP</td>
<td>14+</td>
<td>All</td>
</tr>
<tr>
<td>Brandywine</td>
<td>Coatesville, PA</td>
<td>610-383-4980</td>
<td>Inpatient eating disorders</td>
<td>13+</td>
<td>All</td>
</tr>
<tr>
<td>Hidden River</td>
<td>Chester, NJ</td>
<td>833-307-4837</td>
<td>Residential</td>
<td>12-21</td>
<td>Female</td>
</tr>
<tr>
<td>Clementine/Monte Nido</td>
<td>Briarcliff Manor, NY</td>
<td>866-784-9358</td>
<td>Residential</td>
<td>Adolescent</td>
<td>Female</td>
</tr>
<tr>
<td>Renfrew</td>
<td>Philadelphia, PA</td>
<td>800-736-3739</td>
<td>Residential</td>
<td>14+</td>
<td>Female</td>
</tr>
<tr>
<td>Renfrew</td>
<td>Mount Laurel and Paramus, NJ</td>
<td>800-736-3739</td>
<td>PHP/IOP, outpatient</td>
<td>Adolescent</td>
<td>All</td>
</tr>
<tr>
<td>Center for Discovery</td>
<td>Long Island, NY and Southport, CT</td>
<td>833-398-1898</td>
<td>Residential</td>
<td>11-18 and 10-17</td>
<td>All</td>
</tr>
<tr>
<td>Center for Discovery</td>
<td>Bridgewater and Paramus, NJ</td>
<td>833-398-1898</td>
<td>PHP/IOP</td>
<td>“All”</td>
<td>All</td>
</tr>
<tr>
<td>Gen Psych</td>
<td>Livingston and Brick, NJ</td>
<td>855-436-7792</td>
<td>PHP/IOP</td>
<td>13+</td>
<td>All</td>
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</table>
New Jersey Pediatric Psychiatry Collaborative Regional Hubs

- Atlantic Health Hub @ Newton Medical Center
- Atlantic Health Hub @ Goryeb Children’s Hospital
- Hackensack Meridian Hub @ Hackensack University Medical Center
- Hackensack Meridian Hub @ Palisades Medical Center
- Hackensack Meridian Hub @ Middlesex and Mercer
- Hackensack Meridian Hub @ Jersey Shore University Medical Center
- Cooper Hub @ Cooper University Medical Center
- Cooper Hub @ Pennsville

Essex County served by Rutgers University Behavioral Health Care. More information on the Essex Hub can be found here: https://cbhc.rutgers.edu/clinical/community/collaborative-behavioral-health-care-project-essex-hub/collaborative-behavioral-health-care-project-essex-hub-and
NJPPC Hub Benefits

- A child and adolescent psychiatrist available for consultative support through the Child Psych. consult line

- A psychologist/social worker available to:
  - Assist the pediatrician with diagnostic clarification and medication consultation,
  - Speak with a referred child’s family regarding the child’s mental health concerns and to assist in providing diagnostic clarification.

- One-time evaluation by a child and adolescent psychiatrist (CAP) at no charge to the patient when appropriate.
  - Based on the recommendation of the CAP, the PPC Hub staff will work with the family to develop the treatment and care coordination plan.

- Continuous education opportunities in care management and treatment in the primary care office for the common child mental health issues: ADHD, depression, anxiety, etc.
NJPPC Hub Telepsychiatry Services

Implementation rolling out as an expansion of the NJPPC

- Three platforms to be utilized
  - Face to face
  - Telepsych from home
  - Telepsych from pediatric offices

- Notify your Regional NJPPC Hub if interested
Thank you!

For more Information or to Register for the NJPPC

Visit:
https://njaap.org/mental-health/njppc/

Contact:
NJAAP
Mental Health Collaborative
609-842-0014
mhc@njaap.org
References


References


