The NASPGHAN Fellows Concise Review of Pediatric Gastroenterology, Hepatology and Nutrition

Second Edition

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GI Conditions Associated with Psychological Disorders

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Previous edition authors: Meredith Hitch, MD and Robert Rothbaum, MD

Psychological factors play a role in the development and/or management of several pediatric gastrointestinal (GI) disorders.

In GI disorders such as eating disorders, feeding refusal, and dysphagia and GI presentations of factitious disorder imposed on another (formerly Munchausen by proxy), psychological and/or psychiatric assessment and intervention are critical to effective management. A multidisciplinary approach to these complex disorders is the standard of care.

I. Infantile colic (also see Section 48. Infantile Colic and Gas)

Colic involves recurrent episodes of fussiness, crying, and/or irritability and is a time-limited condition of early infancy, resolving in most cases by 4 months of age. This condition can be very distressing to caretakers, leading to increased pediatric visits. Colic is associated with an increased risk for maternal depression and child abuse. The etiology of colic and effective management strategies remain elusive.

A. Rome IV diagnostic criteria
   For clinical purposes, must include all of the following:
   1. An infant who is <5 months of age when the symptoms start and stop
   2. Recurrent and prolonged periods of infant crying, fussing, or irritability reported by caregivers that occur without obvious cause and cannot be prevented or resolved by caregivers
   3. No evidence of infant failure to thrive, fever, or illness
   Note: these new criteria have moved away from the quantitative
   >3 hours/day occurring >3 days/week

B. Characteristics
   1. Prevalence: 5%–25% of infants; colic is estimated to account for 10%–20% of pediatric visits in early infancy
   2. Course: onset within 2 weeks of birth and peaks at about 5–6 weeks, with a reduction in symptoms in most by 3–4 months of age
   3. Risk factors
      a. <32 weeks gestation odds ratio 1.5 (95% CI 1.0–2.2)
      b. Small for gestational age (<10th percentile) odds ratio 1.2 (95% CI 1.1–1.3)
   4. Etiology is unknown
      a. Medical: organic factors are identified in <5%
      b. Evidence is weak and inconsistent for GI factors in infant colic,
Eating Disorders

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Previous edition authors: Meredith Hitch, MD and Robert Rothbaum, MD

I. Pediatric patients with eating disorders

A. Present with nausea, vomiting, anorexia, failure to gain weight, or weight loss
B. Present at all ages and both genders—younger children present primarily with the somatic symptoms rather than overt psychological symptoms
C. Require eating disorder specialists in evaluating and establishing a treatment plan
D. Have an unrevealing gastrointestinal (GI) evaluation and may fail to reveal both food avoidance behaviors and fear of weight gain

II. The Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM 5) includes six diagnoses for feeding and eating disorders

A. Anorexia nervosa (AN)
B. Bulimia nervosa (BN)
C. Avoidant/restrictive food intake disorder (ARFID)
D. Binge eating disorder (BED)—do not purge
E. Other specified feeding or eating disorder
F. Unspecified feeding or eating disorder

III. DSM 5 criteria for AN

A. Restricted energy intake, leading to significantly low body weight
B. Intense fear of weight gain or becoming fat
C. Disturbed body image as to body weight or shape
D. Restricting or binge eating and purging type

IV. DSM 5 criteria for BN

A. Recurrent episodes of binge eating with inappropriate compensatory behavior to prevent weight gain (self-induced vomiting, misused laxatives, diuretics, or excessive exercise or fasting)
B. Binge eating and compensatory behaviors occur ≥1×/week for 3 months
C. Self-perception unduly influenced by body shape and weight
V. DSM 5 criteria for ARFID

A. Eating or feeding disturbance associated with ≥1 of the following: significant weight loss, significant nutritional deficiency, dependence on enteral feeding or oral nutritional supplements, and marked interference with psychosocial functioning
B. Eating disturbance not explained by lack of food
C. Eating disturbance outside of a course of AN or BN
D. Eating disturbance not attributable to a concurrent medical condition or better explained by another eating disorder

VI. Clinical presentations of a potential eating disorder

A. Persistent vomiting and/or nausea, food refusal, or resistance to eating more, despite a comprehensive negative GI evaluation
B. Medically unstable, requiring urgent treatment of eating issues
C. Dramatically altered eating habits and weight loss (e.g., changes in nutrition, e.g., avoiding sweets or junk foods to “get healthier” or dysregulated eating pattern associated with preoccupation with body weight and/or shape)
D. Chronic malnutrition
E. Emotional issues related to eating problems
F. Dramatically increased exercise and simultaneously decreased nutritional intake
G. Narrowed dietary choices, e.g., vegetarian or vegan without reasoning or becoming gluten-free or lactose-free without supporting evidence

VII. The high yield history: questions about dietary practices and exercise patterns

A. Patient’s personal “story” of disordered eating
   1. Timeline of behaviors with dates of maximum and minimum weights
   2. Associated external events or triggers for behaviors
   3. Feelings and insight about disordered eating behaviors
B. Body image and insight
   1. “Goal” weight, size, and appearance
   2. Body image (dis)satisfaction
C. Energy intake
   1. 24-hour diet history: list specific meals and snacks—foods and portion sizes
   2. Quantify fluid intake—water volume
   3. Caffeine intake
D. Determine energy expenditure
   1. List specific physical activities and describe frequency, duration, and intensity—organized team sports and/or classes, individual activities (e.g., running and fitness DVDs), secretive exercise activities (stomach crunches in room at night), and physically active jobs (e.g., landscaping)
E. Purging behaviors
   1. Self-Induced vomiting—timing after eating and frequency
   2. Exercising and/or fasting after meals
F. Use of weight-control products: diet pills; laxatives; diuretics; energy drinks; “natural” weight loss products; inappropriate use of prescription medications, e.g., attention deficit hyperactivity disorder stimulants; and other appetite suppressants, e.g., tobacco smoking

G. Other concerning behaviors
   1. Label reading and calorie and/or fat counting
   2. Weight loss smart phone apps
   3. Internet use: eating disorder websites and/or chat rooms

VIII. Review of systems: symptoms suggestive of an eating disorder

A. Decreased energy and increased fatigue
B. Cognitive slowing and difficulty concentrating
C. Lightheadedness and syncope
D. Headaches and visual changes
E. Pallor and easy bruising or bleeding
F. Cold intolerance or cold extremities
G. Hair loss, dry skin, lanugo, and dental changes
H. Palpitations, chest pain, shortness of breath, and exercise intolerance
I. Fullness, bloating, abdominal pain, and epigastric burning
J. Vomiting, hematemesis, and reflux
K. Change in bowel habits, diarrhea, constipation, and rectal bleeding
L. Menstrual irregularities
M. Weakness, myalgias, and arthralgias

IX. Pertinent physical examination (PE): to evaluate medical severity related to weight and disordered eating

A. Height—measured on stadiometer
B. Gown weight (naked under gown)
   1. Complete bladder emptying before weighing
   2. Stands backwards on scale to avoid seeing weight
C. Resting heart rate (HR) (after supine for 10 min)
D. Orthostatic vital signs (HR and blood pressure [BP] in supine and standing positions)
E. Calculate % median body mass index (%mBMI) to determine degree of malnutrition
   1. Current BMI/mBMI × 100. mBMI = BMI at the 50th %ile for age and sex
   2. Mild malnutrition (%mBMI = 80%-90%)
   3. Moderate (%mBMI = 70%-79%)
   4. Severe (%mBMI < 70%)
F. Complete PE, including sexual maturity rating staging
G. First tier labs and diagnostics
   1. Complete blood count with differential, serum electrolytes, Ca²⁺, Mg²⁺, liver panel, urinalysis, and thyroid-stimulating hormone
   2. Consider pregnancy test for amenorrhea
   3. Electrocardiogram (EKG) if any positive cardiovascular signs or symptoms, significant electrolyte abnormalities, weight loss, or purging
X. Medical guidelines for hospitalization for suspected eating disorder ± malnutrition/GI symptoms

A. ≤75% mBMI for age and sex
B. Dehydration
C. Electrolyte disturbance (hypokalemia, hyponatremia, and hypophosphatemia)
D. EKG abnormalities (e.g., prolonged corrected QT interval or severe bradycardia)
E. Physiological abnormality
   1. Bradycardia (HR < 50 bpm daytime; <45 bpm nighttime)
   2. Hypotension (<90/45 mm Hg)
   3. Hypothermia (body temp < 96°F, 35.6°C)
   4. Orthostatic increase in pulse (>20 bpm) or decrease in BP (>20 mm Hg systolic or >10 mm Hg diastolic)
F. Arrested growth and development
G. Failure of outpatient treatment
H. Acute food refusal
I. Uncontrollable binging and purging
J. Acute complications of malnutrition (e.g., syncope, seizures, cardiac failure, pancreatitis, etc.)
K. Comorbid psychiatric or medical condition that prohibits or limits appropriate outpatient treatment (e.g., severe depression, suicidal ideation, obsessive compulsive disorder [OCD], and diabetes mellitus type 1)

XI. Referrals for suspected eating disorder

A. Benefit from coordinated care from providers with expertise in this area, including primary care provider and/or adolescent medicine provider for medical monitoring, mental health professionals (therapist and/or child psychiatrist), and a registered dietician
B. Family-based therapy psychotherapy intervention emphasizes parent managing the patient's nutrition and providing supervision and support for meals
C. Child psychiatry consulted for coexisting diagnoses requiring further evaluation and medication management (anxiety, depression, and OCD)
D. Referral to a dietician alone is not recommended

XII. Medications

A. No medications approved for AN or ARFID
B. Fluoxetine 60 mg approved for BN
C. Lisdexamfetamine approved for BED
D. Medication can treat comorbid diagnoses that impact the severity of an eating disorder (e.g., anxiety, depression, and OCD)
E. Medication ideally supervised by a child psychiatrist
Recommended Reading


