“A” is for ARFID
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Relevant Disclosure

Under Accreditation Council for Continuing Medical Education guidelines disclosure must be made regarding relevant financial relationships with commercial interests within the last 12 months.

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I have no relevant financial relationships or affiliations with commercial interests to disclose.
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Up-To-Date Section Editor Royalties

Learning Objectives

At the end of the presentation, the audience should be able to:

1). Diagnose Avoidant/Restrictive Food Intake Disorder (ARFID)
2). Discuss currently utilized treatment interventions for ARFID
An eating/feeding disturbance (lack of interest in eating or food, avoidance based on sensory characteristics of food, concern about aversive consequences of eating) as manifested by persistent failure to meet appropriate nutritional or energy needs associated with one or more of the following:
- significant weight loss
- significant nutritional deficiency
- dependence on enteral or oral supplements
- marked interference with psychosocial functioning

Disturbance not better explained by
- lack of available food
- culturally sanctioned practice
- developmentally normal behaviors (e.g., episodic picky eating in toddlers)
- anorexia nervosa or bulimia nervosa (no evidence of body image disturbance)
- concurrent medical condition or another mental disorder that could explain restriction

AKA

- Restrictive eating
- Selective eating
- Choosy eating
- Perseverant eating
- Chronic food refusal
- Food neophobia
- Food avoidance emotional disorder


Variances of ARFID

- Avoidance based on sensory characteristics/selective eating/functional dysphagia
- Conditioned aversive responses following food intake (e.g. choking, vomiting)
- Anxiety/food avoidance emotional disorder
- Gastrointestinal symptoms
Differential Diagnosis

- Medical conditions (Celiac, H. Pylori, Achalasia, Inflammatory Bowel Disease, Primary Endocrine Disorder (Diabetes, Addison’s), Malignancy, CNS Tumor, Pregnancy)
- Reactive Attachment Disorder
- Autism Spectrum Disorder
- Specific Phobia, Social Anxiety Disorder, and other anxiety disorders
- Obsessive Compulsive Disorder
- Major Depressive Disorder
- Schizophrenia Spectrum Disorder
- Attention Deficit Hyperactivity Disorder
- Factitious Disorder


Medical Conditions

- Celiac
- H. Pylori
- Achalasia
- Inflammatory Bowel Disease
- Primary Endocrine Disorder (Diabetes, Addison’s)
- Malignancy
- CNS tumor
- Pregnancy
Reactive Attachment Disorder

- Severe malnutrition may be present
  - Restricts in ways predicted by withdrawal in caregiver relationship
- Unpredictable eating behavior
- Persistent social and emotional disturbance


Autism Spectrum Disorder

- Restriction/malnutrition often associated
  - Restricted, repetitive patterns of behavior/obsessiveness
  - Sensory processing deficits
- Persistent deficits in social communication and social interactions across multiple contexts
- Restricted interests/fixation
- High rate of comorbidity

Anxiety

- May result in malnutrition
- Situations inducing fear/distress resulting in avoidance
- Specific phobia
  - Difficult to distinguish when fear of choking/vomiting
  - Degree of functional interference important
  - Other anxiety/phobia may be present
- Generalized anxiety disorder
  - Fear/worry about variety of issues much of time
- Panic disorder
  - Physiological manifestation of overwhelming emotional distress
- Comorbidity high

Obsessive Compulsive Disorder

- May present with malnutrition
  - Preoccupations with food
  - Ritualized eating behaviors
  - Have multiple concerns and rituals regarding food
- Obsessions include themes other than food/exercise
- Excessive behavior alleviating emotional distress
- High rate of comorbidity

Major Depressive Disorder

- Appetite disturbance
  - Significant restricting behaviors resulting in weight loss
  - Abates with resolution of mood issues
- Depressed mood or irritability
- Sleep disturbance
- Psychomotor functioning
- Fatigue
- Pessimistic feelings
- Cognitive interference
- Somatic Complaints
- Aggression
- Apathy
- Boredom
- Truancy
- Social Withdrawal
- Low Self-Esteem
- Poor School Performance
- Suicidal ideation


Schizophrenia Spectrum Disorder

- May present with disrupted eating behaviors
  - Thoughts of being poisoned or harmed by food
  - Poor self-care skills
  - Lack of interest in food
  - Food refusal
  - Sensory processing issues
- Delusions
- Hallucinations
- Disorganized thinking
- Abnormal motor behavior
- Negative symptoms
- Functional impairment according to developmental level

Attention Deficit Hyperactivity Disorder

- May present with reduced appetite/food intake
  - Distractibility/hyperactivity may prevent meal completion
  - Stimulants may cause:
    - appetite suppression/weight loss
    - complicate long standing eating behaviors
- Hyperactivity/impulsivity and/or inattention
- Displayed across environments
- One of most commonly diagnosed childhood disorders
- Often comorbid with eating difficulties


Factitious Disorder

- Descriptions of eating behaviors
  - Restricting behaviors (e.g. diets, inability to tolerate foods)
  - Complications from restriction
  - Inability to tolerate social situations involving food
- Assume sick role
- Information does not match objective data
- Presentation overly dramatic
- Can be described by or imposed by caregiver

**AN vs. ARFID**

<table>
<thead>
<tr>
<th></th>
<th>Low body weight</th>
<th>Restricted intake</th>
<th>Emesis</th>
<th>Compensatory behaviors (e.g. exercise, laxatives)</th>
<th>Complicated medical and/or psychiatric history/ multiple medical visits</th>
<th>Sensory processing problems</th>
<th>Body image disturbance / Fear of weight gain</th>
<th>Rejects food for reasons other than weight gain</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARFID</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Anorexia Nervosa</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Possibly</td>
<td></td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

**Risk Factors**

- Anxiety disorders
- Autism spectrum disorders
- ADHD
- Family anxiety
- Family history of eating disorders
- Medical history
  - Gastrointestinal issues, reflux, vomiting, other (e.g. cancer/chemo)
Utility of New Diagnosis

- Increases understanding of specific eating behaviors
- Clarifies underlying contributors (medical/psychological)
- Improves medical and psychological management
- Clarifies treatment direction

Pediatrician Awareness

- 63% of pediatricians and pediatric subspecialties unfamiliar with ARFID
- 30% who suspected ARFID incorrectly applied exclusion criteria

US Data

<table>
<thead>
<tr>
<th>ED diagnosis</th>
<th>Mean age at diagnosis</th>
<th>Mean months duration</th>
<th>% Biologically male</th>
<th>% Median body weight</th>
<th>% With comorbid medical conditions</th>
<th>% With comorbid anxiety disorder</th>
<th>% With comorbid mood disorder</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARFID</td>
<td>12.9 years</td>
<td>33.3</td>
<td>29%</td>
<td>86.5</td>
<td>55%</td>
<td>58%</td>
<td>19%</td>
</tr>
<tr>
<td>Anorexia Nervosa</td>
<td>15.6 years</td>
<td>14.5</td>
<td>15%</td>
<td>81.0</td>
<td>10%</td>
<td>35%</td>
<td>31%</td>
</tr>
<tr>
<td>Bulimia Nervosa</td>
<td>16.5 years</td>
<td>23.5</td>
<td>6%</td>
<td>107.5</td>
<td>11%</td>
<td>33%</td>
<td>58%</td>
</tr>
</tbody>
</table>


US Data

- Reasons for restrictive eating behaviors:
  - Picky eating habits since early childhood = 28.7%
  - Generalized anxiety = 21.4%
  - Gastrointestinal symptoms = 19.4%
  - Hx of vomiting/choking = 13.2%
  - Food allergies = 4.1%
  - Other contributors = 13.2%

Medical Comorbidities
US Data

- 16.3% = medical comorbidities unrelated to ARFID
- 34.6% = medical comorbidities related to ARFID
- 49.1% = no medical comorbidities


Psychiatric Comorbidities
US Data

- 7.2% = MDD/Dysthymia
- 11.3% = Other mood disorder
- 81.5% = No mood disorder

- 28.6% = GAD
- 6.1% = OCD
- 23.5% = Other anxiety disorder
- 41.8% = No anxiety disorder

Canadian Data

- Mean age 13.2 ± 2.3 years
- 35% under 12 years
- 35.5% male
- 57.6% hospitalized
- 100% presented with 2 or more physical symptoms
- 61.5% presented with at least 1 comorbid psychiatric disorder
  - 38.4% anxiety disorder
  - 7.6% mood disorder


Japanese Data

- 100% female
- 19.0 ± 5.1 years
- Restrictive behaviors due to:
  - 55.6% Emotional problems
  - 70.3% Gastrointestinal symptoms
  - No sensory disorders or functional dysphagia
- Relative to AN patients:
  - Shorter illness duration (15.5 ± 10 months)
  - Lower premorbid BMI
  - Lower hospital admission rates
  - Less severe pathology

Assessment

Medical Signs

- Low body weight
- Hypothermia
- Hypotension
- Orthostatic blood pressure or heart rate change
- Bradycardia
- Cachexia
- Temporal wasting
Medical Signs

- Thyroid issues
- Bradycardia
- Irregular heart rhythm
- Breast atrophy
- Decreased sex hormones
- Delayed capillary refill
- Cool to touch
- Acrocyanosis
- Pallor

LABS

- CBC
  - Leukopenia
  - Anemia
  - Thrombocytopenia
- LFTs
  - Elevated AST, ALT
- BMP
  - Electrolyte disturbance
  - Metabolic alkalosis
  - Elevated BUN/Cr
  - Hypoglycemia
LABS

- Low estrogen/testosterone
- Low FSH/LH
- Elevated cholesterol
- Thyroid function
- Magnesium
- Phosphate
- Bicarbonate

Psychological Signs

- Psychological pathology
- Cognitive distortion
- Behavioral disruption
- Sensory dysfunction
- Impaired psychosocial functioning
- Failure to communicate hunger and/or needs/wants
- Withdrawal
Eating Disorders in Youth Questionnaire

- 8 – 13 year olds
- Self-report ARFID symptoms
- Questions address:
  - Variances/ proposed sub-categories
  - Perceived weight problems
  - Distorted cognitions about weight/shape
  - Pica and rumination disorder
- Specific criteria provided to guide interpretation

TREATMENT

- Few published studies
- Medical Intervention
- Dietetic Intervention
- Psychotherapy
  - Individual Therapy
    - Cognitive Behavior Therapy (CBT)
    - Behavior Modification
  - Family Therapy
    - Family Based Therapy (FBT)
Inpatient Medical Intervention

- Follows re-feeding protocol for AN
  - Use of points versus calories
  - Start low, gradually increase
  - Initially chooses food from hospital menu
  - 3 observed meals daily plus possible snack
    - Prescribed meal times
    - Prescribed time limit for completion
    - Observation following meal time
    - Progress toward unobserved meals and food autonomy
  - Meal replacement
    - Oral supplement
    - Enteral supplement (NG/NJ)
    - Based on percentage remaining/emasis
  - Monitor medical signs for progress or possible re-feeding syndrome

Dietetic Intervention

- Corrects nutritional deficiencies
- Vitamin restoration programming
- Nutritional balance preventing micronutrient deficiencies
  - Prescribes meal composition
  - Aides with food selection
  - Determines supplement needs
  - Assesses nutritional and point value of all foods
- Food challenges – increases food variety - *behavioral*
- Educates patient/family regarding nutrition
- Prepares family for outpatient nutrition needs
- Provides inpatient/outpatient support
Individual Therapy

- CBT for Avoidant/Restrictive Food Intake Disorder
  - Provide education on relationship between avoidance and anxiety
    - Education for patients
    - Education for families
  - Help stabilize eating behaviors with preferred foods initially
    - Increases successful experiences with ability to eat/maintain health
    - Addresses fears associated with eating
      - Increase intake of preferred items
      - Improve nutritional deficiencies

- Process introduction of time elements into eating
  - Provide structured eating times multiple times per day
  - Include limited time for eating
- Process reintroduction of typically avoided foods
  - Small steps toward initial exposure with reinforcement for successful exposures
  - Increase amounts being presented
  - Incorporate amounts with other meals/foods
  - Slowly reintroduce situations during which restriction occurs
Individual Therapy

- Promote mindfulness
  - Process eating experiences including thoughts/feelings during before/during/after eating behaviors
  - Connect internal dynamics to behavioral outcomes
  - Increase appropriate responding to emotional distress
- Provide reinforcement
  - Understand elements contributing to problematic eating
  - Determine valuable reinforcements
  - Slowly reintroduce variables interfering with eating
  - Incorporate positive reinforcement for improved functioning and participation

Family Therapy

- Educate parents about ARFID
- Teach relationship between ARFID/Anxiety
- Provide information regarding program/treatment
  - Protocol
  - Individual therapy
    - CBT
    - Behavior modification
- Family therapy
  - Explore dynamics in which ARFID developed
    - Intrapersonal
    - Interpersonal
    - Behavioral
  - Identify alternative dynamics
  - Provide specific behavior plans
  - Parental support
Case 1

- 17-year-old Caucasian female
- Mean Estimated Body Mass Index = 74.4% (46.9 kg, 172.5 cm)
- Presents to the ER
- 12 episodes vomiting within 36 hours, intake restriction, dizziness, intermittent abdominal pain, weight loss over one year
- She is missing her high school graduation while in the ER

- What else would you like to know?

Case 1

- Patient denied:
  - Body image disturbance
  - Laxative use
  - Diet pill use
  - Diuretic use
  - Binge eating
  - Need to control weight through eating behaviors
  - Exercise
  - Substance use/abuse
  - Depression
  - Abuse

- What is her likely diagnosis?
Case 1 History

- 2 previous hospitalizations/multiple ED visits over previous 1.5 years for intermittent episodes of nausea, vomiting, abdominal pain, constipation
  - Extensive GI workup - WNL
  - Symptom improvement with hydration and antiemetics
  - Presence of significant environmental stressors
- Trouble completing meals/skips meals
- Picking eating behaviors beginning in childhood
- Worse with increased anxiety/performance anxiety
- Problematic family dynamics

Case 1 Labs

- CBC plus platelets, BMP, Calcium, Magnesium, Phosphorus, LFT, and Thyroid Function Test - WNL
- ESR - 6
- U/A - WNL
- Celiac Panel - Negative
- H. Pylori Stool Antigen - Negative
- Amylase – 18 (WNL)
- Lipase - <25 (WNL)
Case 1 Vitals

- Temperature = 37.0 – 37.5
- Pulse = 72 – 102
- Resp. = 16 – 20
- B/P = 106/56 – 136/88
- O2 = 96 - 100

Treatment

- What would you do for treatment?
  - Inpatient versus outpatient?
- What if she continued to vomit food?
- What if she continues to vomit with the NG?
- What if she continues to vomit with the NJ?
- What types of psychotherapy would you employ?
Summary

- **ARFID** is a disease you should know
- It shrinks kids when they should eat and grow
- With care we can discern
- How best to have **them learn**
- To eat and get back into the show.

- The treatment is medical and psych
- A deal with **behavior** we must strike
- With patience and great care
- With **time** we will get there
- **Nutrition level** we must now hike.

- Through a phase of discord they may go
- An NG or NJ they may know
- **Body image** does not
- Play a role in their thought
- In the end, **ARFID** they must outgrow.

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References