NUTRITION AND AUTISM

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ROLE OF THE DIETITIAN

- Member of the interdisciplinary team
- Assess dietary intake for adequacy
- Review child’s dietary pattern on a case-by-case basis
BEHAVIORS AFFECTING DEVELOPMENT OF FEEDING SKILLS

- Persistence of primitive reflexes in children with autism
- Delayed development of hand dominance
- Unusual postures
- Unusual movements
FEEDING BEHAVIORS AFFECTING DIETARY INTAKE

- PICA – eating of non-food substances

- Health risks associated:
  - Ingestion of toxic substances
  - Interference with normal digestion and absorption
  - Ingestion of life-threatening substances
  - children with ASD display a higher incidence of this behavior (Erickson et al. 2005)
    - Review hemoglobin and lead levels
    - If indicated, serum total protein and albumin should be assessed to determine adequate protein status
Other Feeding behaviors...

- Food cravings
- Specific food or food preparation preferences
- Idiosyncracies and perceived eating problems according to parental reports
- Aversion to the swallowing of substances
- Oral tactile defensiveness
- Retention of bits of food in the mouth for prolonged period of time – can lead to dental problems
- Idiosyncratic and rigid food preferences
3 Types of Food habits most often seen

1. The need for sameness and ritual
2. Specific eating behaviors
3. Limited and rigid food preferences
Anthropometric Measurements

Dietitian’s Assessment
Indicators of Nutritional Status

- **Head circumference-for-age**
  - <5th percentile
  - >95th percentile

- **Stunting/shortness**
  - length or stature-for-age
  - <5th percentile

- **Underweight**
  - weight-for-length
  - BMI-for-age
  - <5th percentile
Indicators of Nutritional Status

**Overweight**
- Weight-for-length
- BMI-for-age

**Risk of overweight**
- BMI-for-age

- ≥95th percentile
- 85th to 95th percentile
What is BMI?

- Body mass index (BMI) = \( \frac{\text{weight (kg)}}{\text{height (m)}^2} \)

- BMI is an effective **screening** tool; it is not a diagnostic tool

- For children, BMI is age and gender specific, so BMI-for-age is the measure used
Advantages of BMI-for-Age

• BMI-for-age relates to health risks
  - Correlates with clinical risk factors for cardiovascular disease including hyperlipidemia, elevated insulin, and high blood pressure
  - BMI-for-age during pubescence is related to lipid levels and high blood pressure in middle age
For Children, BMI Changes with Age

Example: 95th Percentile Tracking

<table>
<thead>
<tr>
<th>Age</th>
<th>BMI</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 yrs</td>
<td>19.3</td>
</tr>
<tr>
<td>4 yrs</td>
<td>17.8</td>
</tr>
<tr>
<td>9 yrs</td>
<td>21.0</td>
</tr>
<tr>
<td>13 yrs</td>
<td>25.1</td>
</tr>
</tbody>
</table>

Boys: 2 to 20 years
Most common GI complaints

- Lactose intolerance
- Gastro-esophageal reflux
- Constipation
- Diarrhea
- Liver problems
- Feeding problems
- G-tube feedings
Alternative Therapies

- CURRENTLY NO RECOMMENDED DIET THERAPIES for ASD
- Role of the dietitian – analyze the diet for nutritional adequacy and to help support the family and offer current nutrition information
ASD may have autoimmune links and that these foods trigger the autoimmune responses.

The inflammation of the GI tract due to exposure to irritants is uncomfortable or even painful.

Behavioral symptoms may worsen
Other Alternative Therapies

- Megavitamin Therapy
- Feingold Diet or no additive type
Gluten/Casein Free Diet

- Most widely investigated
- Theory: Metabolites of these foods build up in the bloodstream and penetrate the blood/brain barrier.
- The metabolites stimulate the opioid receptors causing the behaviors seen in autism
Goal for Nutrition Therapy

- To meet micro and macro nutrient needs through a regular diet to promote optimal growth and development

- In depth assessment of:
  - Anthropometrics
  - Biochemical
  - Clinical data
  - Dietary information
Used to evaluate overall diet