Learning Objectives

After completing this continuing education course, nutrition professionals should be able to:

- List common digestive issues experienced by the general population.
- Compare and contrast the nutritional interventions to symptom management for common digestive issues.
- Discuss commonalities between nutritional interventions for symptom management of common digestive issues.

Why do patients seek our services?

BECAUSE THEY ARE SICK AND TIRED OF BEING SICK AND TIRED… AND
• Bloating
• Pain
• Constipation
• Diarrhea
• Reflux
• Heartburn
• Discomfort
• Lethargy

**Scope of Practice**

• While we cannot make diagnoses, the nature of our sessions allows us to
  - Ask questions
  - LISTEN
  - Use problem-solving skills
  - Come up with a symptom management strategy
  - Refer to other health care professionals (MDs/DOs)

Hippocrates - “All diseases begin in the gut”

• Gut functions:
  - Digestion
  - Absorption of nutrients
  - Immunity

• Gut health depends on:
  - Intestinal microbiota
  - Short Chain Fatty Acids
  - Nutrient intake
  - Fiber intake

• Gut health affected by:
  - Aging
  - Poor Digestion
  - Imbalance/poor nutrition

• Poor gut health causes:
  - Digestive problems
  - Poor health (diseases/cancer)
  - Weakness (less nutrient supply)
  - Psychological distress
Small Intestinal Bacterial Overgrowth (SIBO)

- **Symptoms:**
  - Indigestion
  - Diarrhea
  - Bloating
  - Abdominal pain
  - Loose stools

- **Diseases Associated with SIBO**
  - Crohn's disease
  - Celiac Disease
  - Cirrhosis
  - Alcohol Abuse
  - NASH

- **Symptoms:**
  - Indigestion
  - Diarrhea
  - Bloating
  - Abdominal pain
  - Loose stools

- **Diagnosis:**
  - Blood test
  - Breath test
  - Biopsies
  - R/o other causes

- **Treatment:**
  - Antibiotics
  - Low FODMAP diet

  - Motility Issues
  - Due to surgery
  - Parkinson's
  - Diabetes
  - Bowel strictures/adhesions that can lead to intermittent bowel obstructions, diverticula or outpouchings of the small intestine, and tumors

  - Diseases Associated with SIBO
  - Crohn's disease
  - Celiac Disease
  - Cirrhosis
  - Alcohol Abuse
  - NASH

Irritable Bowel Syndrome (IBS)

- **Symptoms include:**
  - Cramping/abdominal pain
  - Bloating
  - Gas
  - Diarrhea
  - Constipation
  - Combo of diarrhea & constipation

- **Causes:**
  - Motility issues
  - Abnormalities w/nervous system
  - Inflammation
  - Infections
  - Changes in the gut microflora

- **Triggers:**
  - Food
  - Stress
  - Hormones

- **Treatment:**
  - Diet
  - Exercise
  - STRESS MANAGEMENT

Gastroesophageal Reflux Disease (GERD)

- **Acid indigestion associated with:**
  - Problems w/the LES (lower esophageal sphincter)
  - Excessive acid production
  - Delayed/slow gastric emptying

- **Treatment:**
  - Diet (avoid caffeine, mint, citrus, acidic foods, drink less fluids with meals)
  - Lifestyle (avoid eating <2 hrs prior to sleep, elevating the head when sleeping, no smoking, eat smaller meals/portions)
  - Medication (Acid reducers, PPIs)
FOOD ALLERGIES VS. INTOLERANCES

- **Food allergies** cause immune system response affecting multiple organs in the body (including anaphylaxis)
  - Milk, eggs, fish, shellfish, peanuts, tree nuts, wheat, soybeans
- **Intolerances** are about digestive problems due to malabsorption
  - Enzyme related
  - Celiac
  - IBS
  - Sensitivity to food additives
  - Stress

- **Symptoms:**
  - Gas
  - Diarrhea
  - Constipation
  - Cramping
  - Nausea

- **Treatment:**
  - Take enzymes (lactase, DAO)
  - Avoid foods that are triggers (if not enzyme mediated)

MOTILITY ISSUES

- **Impairment of peristalsis** throughout the GI tract causing:
  - Bloating
  - Pain
  - GERD
  - Vomiting
  - Constipation
  - Recurring obstruction

Symptom Similarities

<table>
<thead>
<tr>
<th></th>
<th>GERD</th>
<th>IBS</th>
<th>Intolerances</th>
<th>SIBO</th>
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</thead>
<tbody>
<tr>
<td>Indigestion</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abdominal Pain/Cramping</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Bloating/Gas</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Diarrhea</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Constipation</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Nausea</td>
<td></td>
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<td>X</td>
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</tbody>
</table>
Travel Irregularity

- Travel often impacts bowel habits
- Quality of sleep may not be the same
- Food/fluid intake may be different
- Traveling through time zones
- Changes in daily physical activity
- Increased incidence of diarrhea/constipation
- Increased incidence of food poisoning, parasitic infection, etc.
- Taking probiotics and prebiotic fiber can help to reduce severity of symptoms

Lifestyle Behavior Management Techniques

- Adequate hydration
- Diet
- Fiber intake
- Exercise
- Stress management
- Sleep

FODMAP

- The "therapeutic diet" of choice vs. BRAT
- Small chain sugars that are malabsorbed in the small intestine
- Fermentable Oligosaccharides Disaccharides Monosaccharides and Polyols
- www.katescarlata.com (for best resources)
Role of Fiber

- Our GI tract is made up of muscle tissue... we must give our gut a workout
- Fiber provides:
  - Delayed gastric emptying
  - Promotes glycemic control
  - Prebiotic fiber for fueling probiotics
  - Reduces cholesterol
  - Provides satiety
  - Helps with diarrhea and constipation

Why People Don’t Consume Enough Fiber

- FAD diets
- Fake News
- High protein intake (animal source)
- Processed foods
- Inadequate fruit and vegetable consumption
- Label reading
- Dining out

Pre vs. Pro

<table>
<thead>
<tr>
<th>Prebiotics</th>
<th>Probiotics</th>
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</thead>
<tbody>
<tr>
<td>Non-living digestible special form of fiber or CHO.</td>
<td>Live active microorganisms that when administered in adequate amount will have beneficial effects to the host.</td>
</tr>
<tr>
<td>The powder form of prebiotics can survive heat, cold, acid; reaches the hind gut.</td>
<td>More fragile, vulnerable to heat, may be killed over time by acid in the stomach</td>
</tr>
<tr>
<td>Perform their role by nourishing the bacteria that live in the intestines.</td>
<td>Fight the harmful bacterial species in the gut.</td>
</tr>
</tbody>
</table>
Soluble vs. Insoluble Fiber

<table>
<thead>
<tr>
<th>Soluble</th>
<th>Insoluble</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oats</td>
<td>Whole wheat bread</td>
</tr>
<tr>
<td>Nuts &amp; seeds</td>
<td>Barley</td>
</tr>
<tr>
<td>Dried peas</td>
<td>Couscous</td>
</tr>
<tr>
<td>Beans</td>
<td>Brown rice</td>
</tr>
<tr>
<td>Lentils</td>
<td>Wheat bran</td>
</tr>
<tr>
<td>Apples</td>
<td>Carrots</td>
</tr>
<tr>
<td>Pears</td>
<td>Zucchinis</td>
</tr>
<tr>
<td>Strawberries</td>
<td>Celery</td>
</tr>
<tr>
<td>Blueberries</td>
<td>Whole grain cereals</td>
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</tbody>
</table>

Technical Fiber Terms

<table>
<thead>
<tr>
<th>Insoluble</th>
<th>Soluble</th>
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</thead>
<tbody>
<tr>
<td>Hemicellulose (most)</td>
<td>Hemicellulose (some)</td>
</tr>
<tr>
<td>Chitosan (neutral pH)</td>
<td>Chitosan (acidic pH)</td>
</tr>
<tr>
<td>Beta-glucan (some)</td>
<td>Beta-glucan (most)</td>
</tr>
<tr>
<td>Cellulose</td>
<td>Fructan</td>
</tr>
<tr>
<td>Lignin</td>
<td>Pectin</td>
</tr>
<tr>
<td>Chitin</td>
<td>Gum</td>
</tr>
<tr>
<td>Resistant Starch</td>
<td>Mucilage</td>
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</tbody>
</table>

Component | Major sources
-----------|-----------------|
Cellulose  | Vegetable, Grain, Wheat bran
Hemicellulose | Grain (bran), Beans
Pectin (insoluble) | Immature fruit, Vegetable
Chitin     | Shell of shrimp and crab
Lignin     | Corso, Grain (bran), Beans

Inulin  | Burdock
Pectin  | Raspberry, Fruit, Vegetable
Glucomannan | Konjak, Yam
Galactomannan | Guar bean
Agar     | Red algae
Alginate acid  | Kelp, Wakame

Soluble fiber is the energy source for intestinal microbiota.
Activation of peristaltic movement (mainly improvement of bowel movement)
Enhancement of water absorption.
Increase lactic acid bacteria via fermentation.
Prevent the absorption of toxins, excess saccharides & lipids.
Prevent lifestyle-related diseases.
Guar Fiber

Clinical Effects

Reduction of Diarrhea incidence
Enhancement of mineral absorption (during periods of deficiency)
Probiotic causing improvement of intestinal microflora balance
Treatment of Constipation
Hypocholesterolemic & hypolipidemic effect
Prebiotic causing improvement of intestinal microflora balance
Improvement of glycemic response
Enhancement of mineral absorption (during periods of deficiency)

Fiber Supplement Comparison

<table>
<thead>
<tr>
<th>Fiber Type</th>
<th>Fiber Content</th>
<th>Mineral Absorption</th>
<th>Probiotic Effect</th>
<th>Hypocholesterolemic Effect</th>
<th>Hypolipidemic Effect</th>
<th>Glycemic Response</th>
<th>Constipation Treatment</th>
<th>Diarrhea Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guar Fiber</td>
<td><strong>Clinically proven to improve regularity and growth of beneficial bacteria.</strong></td>
<td><strong>A true regulating fiber, improves both conditions of occasional constipation and poor elimination as well as diarrhea and loose stools.</strong></td>
<td><strong>Regularity with healthy consistency.</strong></td>
<td><strong>Promotes intestinal and colon health.</strong></td>
<td><strong>Aids in the transit of food through the intestines.</strong></td>
<td><strong>Promotes the absorption of essential minerals.</strong></td>
<td><strong>Helps the body control blood glucose levels that are already within the normal range by controlling the glycemic response to foods.</strong></td>
<td><strong>Not all Fiber Supplements are Created Equal – Guar fiber</strong></td>
</tr>
</tbody>
</table>
References

- https://www.medicinenet.com/small_intestinal_bacterial_overgrowth_sibo/article.htm
- https://www.webmd.com/heartburn/gerd/reflux-disease-gerd#1
- http://www.katescarlata.com/

Questions?

@feliciastoler

Credit Claiming

You must complete a brief evaluation of the program in order to obtain your certificate. The evaluation will be available for one year; you do not need to complete it on August 15, 2018.

Credit Claiming Instructions:
1. Go to CE.TodaysDietitian.com/Toolbox OR log on to CE.TodaysDietitian.com, go to “My Courses” and click on the webinar title.
2. Click “Take Course” on the webinar description page.
3. Select “Start/Resume Course” to complete and submit the evaluation.
4. Download and print your certificate.