Module 3 FODMAP Elimination

Lesson 1: Normal Digestion

Transcript

Hey, y'all. It's Kirsten Watts, registered dietitian with Diet Versus Disease. I'm gonna do a quick little video presentation here that takes you through the normal functioning of our GI system and then has a bit of an explanation for why you might be suffering from the symptoms you do with IBS or other digestive ailments.

So your digestive system is a pretty plaques network of organs and they work together to help us break down food, to absorb nutrients, and to eliminate waste. And that process begins in the mouth when we consume food or beverage.

And what happens in the mouth is that through the process of chewing, we release saliva and the saliva mixes with the food that we have consumed.

And it starts the enzymatic digestion of the food in the mouth. Now after that happens, we swallow and it will travel down your esophagus, which is this tube here, into your stomach. And once it reaches the stomach, it mixes with gastric juices, one of which is hydrochloric acid. And the purpose of this is to break down the nutrients further and to kill any potential pathogenic bacteria or microbes in the food that you have consumed.

And as the gastric juices are released, the stomach also churns this food back and forth. And so the process of that breaks down larger food particles into smaller particles creates this liquid that we call ‘chyme’. Now chyme is this, it's like some solids, some liquids mixed together, but it's pretty much in a semi solid state, very liquid. And at that point, it'll start getting released from your stomach into the small intestine, which is represented with all of these sausage looking tubes down here.

The small intestine is where the majority of our food is digested, absorbed, and will enter our body.

So the chyme exits your stomach into your intestine at a fairly slow rate and enzymes from your pancreas are released.

Some enzymes already live in our small intestine.

And then your gallbladder will release bile, which also helps digestion.

So this is the point where the larger, what we call macromolecules, protein, carbohydrate, and fat are broken down into smaller substances to be absorbed.

Some go through your blood, some go through your lymphatic system. We also have quite a bit of absorption of vitamins and minerals taking place in the small intestine. So the small intestine very long, it's job is to get all the nutrients out of food that we can get out of it.

And after the body is done taking the nutrition out of food, it'll empty it from the small intestine into the large intestine.

That is also referred to as our colon, so you might have heard it referred to as that.

Now the colon's job is to reabsorb fluid and to absorb some of the electrolytes back out of that material.

So everything that's left over after absorption enters the colon, Fluid is removed, some salts like the electrolytes are removed, and the product that's left over is then taken from the colon and pushed down into the rectum where it is now feces ready to be eliminated in movement. And so that's the normal process of taking food in, processing it through the digestive system, and then eliminating any waste products that we don't use. So you might be wondering why exactly this process is causing symptoms for you. And we just wanna point out that, hey, you know, you're not alone in this. There are quite a number of people on the planet that suffer from symptoms related to GI distress.

And irritable bowel syndrome in particular is thought to have a global burden of around eleven percent of the total population.

That does vary from country to country. Part of that is diagnosis is different and part of that is lifestyle is different.

Now what we do know is that it is twice as common in women as it is in non females. It is more likely to occur over the age of fifty than under the age of fifty. And it's much more common in those that have suffered from GI infections and that can include food poisoning but it can include things like COVID. So many viruses can irritate the normal workings of a GI tract.

It's pretty difficult to diagnose IBS. It's what we call a diagnosis of exclusion because there's no biomarker that's been validated and used, across the board for IBS and therefore doctors will go off of symptoms.

And this can vary from person to person. The amount of symptoms one person has can be very different from another person, and it can vary throughout someone's experience with the condition. And it can happen at any point in time even though it is more common in older people. So children can suffer from this, middle life and elderly as well.

So let's talk about some of the common symptoms that can happen in different parts of the GI system.

All of the IBS related symptoms occur lower down.

And the small intestine is a very common place for people to experience symptoms and that can include bloating and distention from gas being produced. There is what we call a visceral hypersensitivity.

So in IBS sufferers, they are more aware of the sensations in their abdominal cavity especially as food passes through the small intestines.

There can also be changes in how fast food or chyme is moving through your intestinal tract. It usually slows down quite a bit in the small intestines to give the body time to absorb those nutrients and to break down the food enzymatically.

But in IBS, this can be changed from your normal. Your GI motility can speed up leading to diarrhea or it could slow down leading to constipation, and this can cause cramping and pain for some people.

Now common symptoms of IBS that we see in the large intestine are more obvious for most people. This can include quite a bit of gas and bloating because the food that is undigested, the leftover particles reaches the colon, and bacteria will start to ferment that creating gas and this can push on the intestines creating bloating and distension.

At this stage, you can have much more severe cramping and of course we can still experience an increased or decreased motility leading to either constipation or diarrhea and both of those can result in quite a bit of abdominal pain and cramping as well.

Now sometimes people will notice a change in their bowel habits when food reaches this stage, but they'll do a little bit better earlier on. And for some people, food bothers them along the entire GI tract.

And then some people, they can also experience symptoms of urgency in needing to get to the bathroom. And in some cases, they won't make it especially if there's excess of gas present as well.

Okay. So since we mentioned the gut microbes, let's dive just a little bit deeper into what these guys do and how they can be altered in IBS.

Now we have a microbiome of many different species that live on every surface of our body outside and inside. But you've probably heard references about the gut microbiome a lot. And there are theories that an alteration in the microbes in your gut can lead to things like IBS or even, Crohn's disease, celiac disease, etcetera.

Now in IBS, we know that these alterations can lead to the symptoms that clients suffer from. So the gas and the bloating, the GI motility changes, and the sense of that, which we refer to as visceral hypersensitivity.

Now typically, in a healthy working gut with a microbiome that's doing what it's supposed to do, we still have fermentation. That's a normal process. It's a normal part of the digestion and elimination process, but it can be excessive or in IBS sufferers, it can be sensed more by what we call the host, by the person suffering from these conditions.

So in later sessions, they're gonna dive a little bit more into the gut microbiota and how it relates to your overall health and well-being.

Now other factors that can contribute to IBS can include stress and trauma. So those that suffer from significant life stress or trauma are more likely to suffer from IBS symptoms.

And other mental health conditions have been related to this. So in general, the more difficult life is, the more likely you are to have IBS related symptoms.

Now those that suffer from food sensitivities or intolerances or food allergies are more likely to suffer from IBS.

People that are experiencing what we call small intestinal bacterial overgrowth, that is having too much bacteria or some that don't belong in the small intestine there because you have fermentation going on to an extent the body is not used to.

Hormone therapy can lead to the onset of IBS or worsen symptoms as can just normal monthly hormonal fluctuations especially in those that have menstrual cycles.

And then there are some things that we now consume that we didn't consume before that have been thought to be linked to a disruption in the microbiota and therefore, potentially causing or exacerbating IBS. And the biggest kind of suspicion there, the heaviest players are sugar alcohols. So consuming those in smaller quantities is probably a good idea if you have IBS.

So just to summarize, IBS arises during digestion of food. The symptoms can include gas bloating, distention, abdominal pain, and a change in bowel habits. And the severity varies from person to person and from episode to episode. So it can change throughout the day as well. Now triggers that we have identified through research include infections, certain medications, including hormone therapy, stress, trauma, and mental health issues that can relate to visceral hypersensitivity, changes in diets or poor quality diets high in processed foods, and hormonal changes.

So wishing you the best of luck in your journey on rehabilitating your gut through a low FODMAP diet.