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<https://youtu.be/HIBrkUdzlAo>

## What is Dietary fiber and why is it important?

*'Science- backed dietary fiber to help guide you through the complex world of nutrition'*  
*Dietary fibers have raised much interest, as they exert beneficial effects on body weight, food intake, glucose homeostasis and insulin sensitivity.*

*Epidemiological studies show an association between a higher fiber intake and a reduced risk of irritable bowel syndrome, inflammatory bowel disease, cardiovascular disease, diabetes, and colon cancer*

Our main dietary macronutrients are carbs, fats, and proteins. We get our fiber content only from carbs and not from fats or proteins. Do you know that meat has no fiber?

It is the indigestible part of plant foods, such as fruits, veggies, seeds, and legumes that has no nutrients. They add bulk to our stools, promote the growth of healthy bacteria in the large gut and act as a sponge, absorbing fluid to soften the stools.

It is also known as roughage or bulk and forms part of the food component that is not digested in the gut. Some fibers are water soluble and are not bulky or rough.

Other components of plant foods which cannot be completely broken down in your gut by digestive enzymes includes waxes, lignin, and polysaccharides such as cellulose and pectin.

Lignin content is very high in strawberries and peaches, flaxseed, root veggies like carrot, parsley, edible seeds in berries, tomatoes and most other vegetables. whereas pectin levels are highest in citrus fruits and apples. Cereals and grains contain high levels of the insoluble fibers' cellulose and hemicelluloses

Fiber keeps your gut healthy. A healthy diet is composed of much fiber, for good health and nutrition. It protects against most chronic diseases that occur in your gut, and others like diabetes, heart disease and cancer.

Sources of dietary fiber are whole grains, pulses, potatoes, fresh fruits, out of common day to day food we consume.

There are two types of fiber- insoluble fiber that does not dissolve in water and adds bulk to the stools, preventing constipation. The other type is referred to as soluble fiber which absorbs water, forming a gel-like substances in the gut and helps delay absorption of

nutrients, may help lower cholesterol levels in your blood and help regulate blood sugar levels.

Good sources of soluble fiber include beans, fruits, oats, nuts and veggies.

Contrary to soluble fiber, insoluble fiber does not dissolve in water and passes through the gut and has no calories.

Good sources of insoluble fiber include- fruits, nuts, veggies and whole grain foods.

If your diet does not include sufficient dietary fiber, sugar will get absorbed from your gut rapidly and cause sugar spikes in your blood.

So, it is important for diabetics too include lot of dietary fiber in their diet.

A 2017 review of studies-Trusted Source found that people eating high fiber diets had significantly reduced risk of cardiovascular disease and lower mortality from these conditions.

The authors say that these heart protective effects could be because fiber reduces total cholesterol and low-density lipoprotein (LDL) cholesterol, also called 'bad cholesterol,' which is a major risk for heart conditions.

According to a 2009 review, dietary fiber has a positive impact on gastrointestinal disorders, including:

colorectal ulcer

hiatal hernias

gastroesophageal reflux disease

diverticular disease

hemorrhoids

A 2019 review reports that fiber intake may reduce a person's risk of colorectal cancer.

For people aiming to lose weight, a diet high in dietary fiber can help regulate weight loss.

High fiber foods help a person feel fuller for longer and may help people adhere to a diet.

Weight management

In a 2019 study-Trusted Source, researchers concluded that people who increased their dietary fiber intake increased their weight loss and adherence to their dietary caloric restriction.

Prebiotic foods are high in special types of fiber that supports digestive health. They promote the friendly bacteria in your gut helping with various digestive problems, and even boost your immune system.

While probiotics foods have live bacteria, prebiotic foods feed the good bacteria that already live in your gut. They are specialized plant fibers. Prebiotics are found in asparagus, Jerusalem, bananas, oatmeal, red wine, honey, maple syrup and legumes like dhal.

What is the major role fiber plays in the large gut?

Fiber is fermented in the large bowel by the bacteria that live there. Such fermentation leads to a healthier digestive system.

Some of these nutrients the gut microbes produce after fermentation of the dietary fiber by the gut microbes include short-chain fatty acids like butyrate, acetate and propionate.

Short chain fatty acids are the main metabolites produced by the microbiota in the large gut through anaerobic fermentation of indigestible polysaccharides such as dietary fiber and resistant starch.

These fatty acids influence the gut brain communication. What it means is that the gut is considered as the second brain as there is a link and relationship between the functions of the

brain and gut and short chain fatty acids produced by the gut microbes seem to participate in the process.

These short chain fatty acids act as a source of energy for the cells lining the large bowel. Examples of short chain fatty acids are Acetate, propionate and butyrate as mentioned earlier. They promote immunity in the body and suppress inflammatory responses in the intestines and other organs. Inflammatory conditions such as ulcerative colitis and Crohn's disease are prevented in the large bowel by the anti-inflammatory action of these short chain fatty acids. In short, the short chain fatty acids produced due to anaerobic fermentation of the dietary fiber by the gut bacteria serve many beneficial functions in the body.

So, a high fiber diet is recommended all times to prevent metabolic syndrome, bowel disorders and certain types of cancer, and a positive influence to prevent ulcerative colitis, Crohn's disease, and antibiotic-associated diarrhea.

The amount and type of fiber consumed has dramatic effects on the composition of the intestinal microbiota and consequently on the type and amount of short chain fatty acids produced. The average diet in Western societies contain approximately 20-25 g fiber/day. In diets that are high in fruit and veggies, the fiber content may reach 60 g/day.

So, we recommend the viewers to consume daily a vegetable based diet with fruits containing much fiber for better health and wellbeing

Hope this video talk was useful.

Sray safe and goodbye for now.