Researchers from Japan’s University of Tokushima Graduate School of Health Biosciences have proven what natural health proponents have been suggesting for decades: Brown rice is superior to white rice, not only nutritionally, but for glucose metabolism and for the prevention of metabolic syndrome.

The researchers ran multiple tests with healthy and obese volunteers, the first to analyze the effect of brown rice consumption on weight management and/or loss, body fat, abdominal fat and glucose metabolism. They also measured the effects of the two types of rice on the health of the arteries (endothelial function and dilation). These effects were also tested in patients who had been diagnosed with metabolic syndrome.

The researchers then randomized 27 male volunteers into groups and for 8 weeks they had the subjects eat various patterns of brown rice or white rice meals. The researchers also mixed the protocols to include a return to white rice consumption for those who ate brown rice for eight weeks. After the series of tests, the researchers determined that those eating brown rice in their diets had greater weight loss during the eight weeks. Furthermore, most of that weight loss returned after they returned to white rice consumption.

The research also determined that the brown rice consumption resulted in slower glucose metabolism – lower postprandial glucose levels – as compared to white rice consumption.

The researchers also determined that consuming brown rice resulted in a greater dilation of the brachial artery – a measure of the arteries' endothelial health.

The research also found that two months of eating brown rice resulted in lower insulin resistance. Cholesterol levels (LDL-c and total) were also lower after 8 weeks of eating brown rice.

The researchers wrote:

“In conclusion, consumption of brown rice may be beneficial, partly owing to the lowering of glycemic response, and may protect postprandial endothelial function in subjects with the metabolic syndrome. Long-term beneficial effects of brown rice on metabolic parameters and endothelial function were also observed.”

**Metabolic syndrome and the role of whole foods**

Metabolic syndrome is evidenced typically by an overweight status or obesity level of weight, glucose metabolism issues – with either glucose intolerance and/or insulin resistance. Rounding out the effects of these is evidence of coronary artery disease – which typically affects those with glucose metabolism issues due to the formation of free radicals in the blood stream from the greater levels of glucose in the blood.

This research and others has pointed to the fact that metabolic syndrome is often a factor of eating overly processed foods – and the avoidance of whole foods in general.

The reason for this is that whole foods typically contain greater fibers – in the form of husks, peels, seeds and segment walls. These are typically separated from the food during processing, leaving a mash of starches with limited nutrients. For some foods, a particular nutrient – such as sugar – is extracted from the food and the rest tossed.
The separated, mashed food is then typically heated to high degrees in order to sterilize it – which kills many of the remaining nutrients. This sterilized food is then packaged with preservatives and other chemicals to produce what natural health experts might call "fake food."

In the case of rice, white rice is milled, which means its germ, bran and hull (husk) removed. The remaining kernel is then typically polished and enriched with some of the vitamins it is now missing due to the bran and germ being removed – including folic acid and other important B vitamins.

But what about phytic acid?

There is a growing concern among the health community regarding phytic acid content in rice and other grains. Research has found that many unprocessed nuts and grains contain phytic acid. Phytic acid has been shown in multiple studies to potentially decrease the absorption of certain minerals, including calcium, iron and zinc.

And uncooked and unsoaked brown rice has higher levels of phytic acid than white rice (0.84-0.99% vs. 0.15-0.60%).

However, it is not as simple as that. Phytic acid – also called inositol hexakisphosphate as well as phytate – is broken down into its soluble components (hydrolyzed) during soaking, cooking, fermentation and germination processes.

Phytates are also hydrolyzed by enzymes called phytases – which become available during the processes just mentioned. In the presence of a phytase, phytates are converted to inositolphosphates such as myo-inositol triphosphate, which do not block mineral absorption.

Phytases are available throughout nature. Upon germination, most grains will produce phytases to neutralize phytates. (Yes, nature is intelligent.)

And many bacteria also produce phytase – including intestinal bifidobacteria such as Bifidobacterium infantis – a bifidobacterium passed from mother to infant during birth and within breastmilk – and lactobacilli such as L. acidophilus, L. plantarum and L. paracasei – which are present in the guts of healthy persons. These and many other probiotic strains produce phytase, which in turn hydrolyze any remaining phytic acids not hydrolyzed during soaking, cooking, fermentation and/or germination.

Multiple studies have successfully tested the ability of these and other probiotic strains to hydrolyze phytic acid with their phytase content.

Brown rice: An ancient grain

Brown rice is an ancient grain that has nourished billions of people for thousands of years. The ancient Ayurvedic formula for consuming rice with meals is to include yogurt with the meal. Though the soaking and longer cooking style of Ayurvedic rice (curried with turmeric and other spices) naturally reduces its phytic acid content, the accompanying yogurt helps immediately jump start the fermentation process. This is followed up by the phytase produced by the intestines’ probiotics – leaving little if any phytic acid unhydrolyzed.

Other ancient cultures such as the Koreans, Chinese and Japanese also used fermented foods and sauces alongside their rice meals. The wisdom of these ancient cultures is an important consideration in our choice of foods.
References:


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