

New research investigates potential probiotic benefits of a pear-enriched diet

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A new in vitro (test tube) study, "Dietary functional benefits of Bartlett and Starkrimson pears for potential management of hyperglycemia, hypertension and ulcer bacteria *Helicobacter pylori* while supporting beneficial probiotic bacterial response," was published in the March issue of *Food Research International*.

In a laboratory in vitro setting, Kalidas Shetty, PhD, currently a professor of plant science at North Dakota State University, and the research's lead author, Dr. Dipayan Sarkar, studied the compounds found in two pear varieties, Bartlett and Starkrimson, in order to better understand the impact of those compounds on chronic diseases. The results suggest fermentation of these pear cultivars further enhances their ability to control stomach related diseases involving *H. pylori*, the most common chronic bacterial infection in humans, without affecting beneficial bacteria with probiotic potential.

"Bacteria is often perceived as something that causes diseases; however, the body is full of bacteria that are mostly good," said Dr. Kalidas Shetty. "It's exciting to explore the potential that pears can have to balance beneficial bacterial activity in the digestive process, as gut health helps support overall health of the body."

In addition to studying the probiotic potential of pears, the researchers looked at pears as part of a dietary strategy to provide efficient and effective management options to combat diet-linked non-communicable diseases like type 2 diabetes and its associated cardiovascular disease

complications. The study found that Bartlett and Starkrimson pear varieties have compounds such as phenolics and antioxidants as well as activity that slows down enzymes related to starch and glucose metabolism, which relates to managing early stages of hyperglycemia and diabetes-induced [hypertension](#).

Pears are among the most popular fruits in the world, and are an excellent source of fiber and a good source of vitamin C for only 100 calories per serving. One medium pear provides about 24 percent of daily fiber needs. And, they are sodium-free, cholesterol-free, fat-free, and contain 190 mg of potassium. An overall balanced diet rich in fruits and vegetables, including pears, provides micronutrients, vitamins, dietary fiber, potassium, antioxidants, and more.

Dr. Shetty's new research builds on a previous in vitro study that explored the pulp extracts of different pear varieties and how they impact absorption of glucose during digestion.² It is not known if the results of either of these in vitro studies can be replicated in humans, but these findings provide the scientific rationale to perform human studies in the future.

More information: 1. Sarkar D, Ankolekar C, Pinto M, Shetty K. (2015). Dietary functional benefits of Bartlett and Starkrimson pears for potential management of hyperglycemia, hypertension and ulcer bacteria *Helicobacter pylori* while supporting beneficial probiotic bacterial response. *Food Research International*, 69, 80-90.

2. Barbosa ACL, Sarkar, D, Pinto M, Ankolekar C, Greene D, Shetty K. (2013). Type 2 diabetes relevant bioactive potential of freshly harvested and long-term stored pears using in vitro assay models. *Journal of Food Biochemistry*, 37, 677-686.

Provided by Pear Bureau Northwest

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