

Probiotics can protect the skeletons of older women

June 21 2018

For the first time in the world, researchers at the University of Gothenburg, Sweden, have demonstrated that probiotics, dietary supplements with health-promoting bacteria, can be used to affect the human skeleton. Among older women who received probiotics, bone loss was halved compared to women who received only a placebo. The research opens the door to a new way to prevent fractures among the elderly.

Brittleness of the bones, or osteoporosis, is characterized by porous and weak bones, which can cause them to break even when subjected to low loads, such as a fall from standing height. The proportion of the population with osteoporosis increases with age, and a majority of [women](#) over 80 years of age have the disease.

"Today there are effective medications administered to treat osteoporosis, but because [bone](#) fragility is rarely detected before the first fracture, there is a pressing need for preventive treatments," says Mattias Lorentzon, who is a chief physician and professor of geriatrics at Sahlgrenska Academy, University of Gothenburg.

This is the first time that researchers have shown that it is possible to cut age-related [bone loss](#) in [elderly women](#) in half if they receive health-promoting bacteria, known as probiotics.

Double-blind, randomized study

The study was conducted at Sahlgrenska University Hospital in Mölndal, Sweden, and its results of the study are now being published by the *Journal of Internal Medicine*. Ninety elderly women, 76 years old on average, ingested a powder that contained either health-promoting bacteria or a placebo every day for a whole year. A random method determined which women received the active treatment with the *Lactobacillus reuteri* 6475 bacteria and which received powder without bacteria. Neither the researchers nor the women knew who received the active powder during the study.

"When we finished the study after a year, we measured the women's bone loss in their lower legs with a CT scan and compared it with the measurements we made when the study began. The women who received the powder with active bacteria had lost only half as much bone in the skeleton compared with those who received inactive powders," says Anna Nilsson, a chief physician and associate professor at Sahlgrenska Academy, University of Gothenburg. "Another positive outcome from the study was that the treatment was well tolerated and did not produce more side effects than those experienced by women who received the placebo."

A paradigm shift

Research has shown that intestinal bacteria affect the skeleton in mice, but this is the first study in which probiotics were used to reduce bone loss in older people. The discovery could have important implications in the future: "Older women are the group in society most at risk of osteoporosis and fractures. The fact that we have been able to show that treatment with probiotics can affect bone loss represents a [paradigm shift](#). Treatment with probiotics can be an effective and safe way to prevent the onset of osteoporosis in many [older people](#) in the future," says Mattias Lorentzon.

Lactobacillus reuteri 6475 is a bacterium believed to have multiple health-promoting properties, and similar bacteria are already used in a variety of supplements on the market. The bacterium is naturally found in the human gastrointestinal tract. Bacteria in the stomach and intestine have received considerable attention in recent years because there is evidence that the composition of our bacterial flora is associated with diseases such as diabetes and obesity. The mechanisms, that is, the ways that the [bacteria](#) produce different effects in the body, are not yet clearly understood.

More information: Anna G. Nilsson et al. Lactobacillus reuteri reduces bone loss in older women with low bone mineral density - a randomized, placebo-controlled, double-blind, clinical trial, *Journal of Internal Medicine* (2018). [DOI: 10.1111/joim.12805](https://doi.org/10.1111/joim.12805)

Provided by University of Gothenburg

Citation: Probiotics can protect the skeletons of older women (2018, June 21) retrieved 2 May 2024 from <https://medicalxpress.com/news/2018-06-probiotics-skeletons-older-women.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--