



NUTRITION & ANTI-AGING

## What Can't It Do? Key Health and Wellness Benefits of Flax

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Daily ingestion of ground flaxseed (a heaping tablespoon per day - 25 gm) has shown many impressive health benefits in human clinical trials. Ground flaxseed can help reduce high cholesterol, improve regularity (reversing constipation), reverse fibrocystic breast disease, improve male prostate gland health, and may help prevent hormone-dependent cancers (breast, uterine, prostate cancers), according to experimental studies.

### Numerous Health Benefits

Ground flaxseed contains both [soluble and insoluble fiber](#), which accounts for its cholesterol-lowering and bowel regulatory (bulk laxative) effects, respectively. Flaxseeds also contain mammalian lignan precursors, which are converted by gut bacteria into enterolactone and enterodiol. These phytoestrogens act as antioxidants and can bind to certain receptors and enzymes within the body to produce an array of health benefits.

Human clinical trials also suggest ground flaxseed supplementation can help reverse fibrocystic breast disease, prevent and reverse prostate enlargement (benign prostatic hyperplasia), and induce other physiological effects related to the prevention of colon and reproductive organ cancers in men and women.<sup>1-2</sup>

### Promising Research: Flaxseed for Weight Loss and Energy



An impressive study published in March 2019 suggests ground flaxseed may also help with weight loss and energy levels. We know gut microflora plays a role in regulating weight and the way the body processes glucose. The breakdown of dietary fiber in the gut - a process called fermentation - can produce favorable changes in the digestive system, such as an increase in beneficial fatty acids, which may reduce the production of fat tissue in the body and improve immune function.

In this study, researchers evaluated the fermentation of flaxseed fiber within the gut of mice. They fed the mice one of four different diets for 12 consecutive weeks:

- A standard diet that contained 4.6 percent soy-based fiber ("control")
- A high-fat diet that contained no fiber ("high-fat")
- A high-fat diet that contained 10 percent indigestible cellulose fiber ("cellulose")
- A high-fat diet that contained 10 percent flaxseed fiber ("flaxseed")

Results showed that the flaxseed group was more physically active and had less weight gain than the other high-fat-diet groups. The presence of flaxseed in the diet prevented diet-induced obesity in these animals, and improved their activity level and energy expenditure. The mice that received flaxseed also showed better glucose (blood sugar) control and levels of beneficial fatty acids linked to the prevention of weight gain and various diseases.

When examining the intestinal contents, the research team found evidence that the bacteria present in this group could ferment the fiber found in flaxseed, which they fermented into more beneficial fatty acids and other health-promoting products.

Thus, ingesting flaxseed appears to favorably alter the bacterial composition of the gut in a way that produces fermented products which can reduce and reverse weight gain, and improve energy and activity levels. The researchers concluded: "Our data suggest that flaxseed fiber supplementation affects host metabolism by increasing energy expenditure and reducing obesity,

as well as by improving glucose tolerance."<sup>3</sup>

Other animal studies have shown that flaxseed supplementation helps to prevent obesity. Flaxseed fiber forms highly viscous solutions upon hydration. Viscous fibers appear to be effective in suppression of hunger. Soluble non-starch dietary fibers of flaxseed mucilage form viscous solutions shown to delay gastric emptying and nutrient absorption from the small bowel.

Ground flaxseed supplementation has also been shown to up-regulate leptin secretion in animal studies. [Leptin](#) reduces appetite, and animals with higher leptin secretion have been shown to eat fewer calories and avoid obesity problems.<sup>1-2</sup>

Thus, one more reason to recommend that your patients add a heaping tablespoon of ground flaxseed each day to a protein shake, low-fat yogurt, bowl of cereal, low-fat muffin, etc., involves its potential in helping overweight patients reduce body fat, and helping other patients avoid weight gain over their lifetime. It may also boost energy output (which helps reverse weight gain and obesity, and improves physical activity levels).

### References

1. Kajla P, Sharma A, Sood DR. Flaxseed- a potential functional food source. *J Food Sci Technol*, 2015;52(4):1857-1871.
2. Goyal A, Sharma V, Upadhyay N, et al. Flax and flaxseed oil: an ancient medicine & modern functional food. *J Food Sci Tech*, 2014;51(9):1633-1653.
3. Arora T, Rudenko O, Egerod KL, et al. Microbial fermentation of flaxseed fibers modulates the transcriptome of GPR41-expressing enteroendocrine cells and protects mice against diet-induced obesity. *Am J Physiol-Endocrinol and Metab*, 2019 Mar 1;316(3):E453-63.

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