

Flaxseed Supplementation: An Integral Aspect of Vibrant Health

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Ground flaxseed, ingested daily, is one of the most "multipurpose" natural agents that may reduce the risk of many degenerative diseases and help optimize health and well-being for adult men and women.

Flaxseeds are an extremely rich source of a mammalian lignan precursor known as secoisolariciresinol diglycoside (SLD), which provides the body with the raw material from which the bacteria in the large bowel produce two powerful phytoestrogens. In fact, flaxseeds contain 800 times more SLD and related compounds than any other common food. The equivalent of two heaping tablespoons of ground flaxseed (approximately 40-50 grams) helps support the health of female reproductive organs and the male prostate gland. This level of daily intake has also been shown to lower blood cholesterol levels; support liver and gallbladder function; improve large bowel health; reverse fibrocystic breast disease; help support bone density; and improve the texture and smoothness of the skin (an effect that almost everyone notices within the first few weeks of use).

Here is why flaxseed powder can provide such a multitude of health benefits:

Flaxseed and Breast Health

After ingestion, the SLD in flaxseeds is converted by large-bowel bacteria into two estrogen-like substances: enterolactone and enterodiol. Classified as phytoestrogens (plant-based estrogens), these substances can bind to estrogen receptors on breast tissue, the endometrium of the uterus and cells on the cervix, toning down the overstimulation of the body's more potent endogenous estrogens (as obtained through hormone replacement therapy or the birth control pill, for example) on these tissues. This is important because overstimulation is linked to an increased risk of breast, endometrial and cervical cancer.

The phytoestrogens derived from flaxseed are so effective at protecting a woman's reproductive tissues from estrogen overstimulation that a recently published, Toronto-based hospital study demonstrated that flaxseed supplementation greatly improved symptoms in women who suffered from cyclical mastalgia.

Other studies have demonstrated that flaxseed supplementation can help normalize estrogen production and reduce the buildup of more cancer-permissive estrogens (decrease synthesis of 16-alpha hydroxyestrone). Furthermore, flaxseed ingestion has been shown to directly slow down the breast cell division rate (antiproliferative), a factor in the prevention of breast cancer development. All indicators suggest that every adult woman (by age 16) should capitalize upon the benefits of flaxseed, as they impact the lifelong health of reproductive tissues.

Flaxseed and Prostate Health

The phytoestrogens derived from flaxseed also help to preserve prostate health. They block the

overproduction of estrone within fat cells. With weight gain, fat cells become larger and tend to manufacture more estrone hormone, which encourages prostate cells to synthesize more dihydrotestosterone (DHT). This in turn stimulates rapid division of prostate cells, leading to prostate enlargement. DHT also promotes the growth of any existing prostate cancer cells. By age 50, 15 percent to 30 percent of men already have some cancer cells present within the prostate gland. Keeping DHT levels in check is considered an important step in preventing these cancer cells from dividing and spreading, *en masse*, throughout the prostate gland, and metastasizing to other parts of the body.

Thus, daily flaxseed provides important bioactive agents that indirectly slow the rate of prostate cell replication, reducing the chances of prostate enlargement (benign prostatic hyperplasia), and may hinder the promotion of cancer development. These same phytoestrogens also bind to receptors on the prostate gland, helping to block the influence of other hormones, which may stimulate rapid prostate cell division. Other herbal compounds, such as saw palmetto, *pygeum africanum*, soy isoflavonoids and beta-sitosterol, can also block the buildup of DHT and have been shown to improve prostate health in a number of well-designed clinical studies. However, in my view, daily ingestion of 50 grams of ground flaxseed should be included as a primary anti-aging, disease-prevention strategy by every adult male, as prostate cancer is the most common cancer in men and prostate enlargement problems will affect 80 percent of them if they live to old age.

Flaxseed and Cholesterol

Studies reveal that the same amount of flaxseed required to help maintain male and female reproductive tissue health (approximately 40-50 grams ground flaxseed daily) can also lower blood cholesterol by up to 10 percent in people with high cholesterol levels. More importantly, it lowers the bad cholesterol (LDL) by approximately 15 percent, and concentrations of "lipoprotein (a)" by 7 percent. Lipoprotein (a) is now recognized as a significant risk factor for heart disease, and flaxseed supplementation is the only known dietary intervention that can lower it into a safer range, if it is elevated. As it turns out, flaxseed contains soluble dietary fiber, which has proven cholesterol-lowering effects. Soluble fiber binds to cholesterol in the intestinal tract and drags it out of the body in fecal matter. It also binds to bile acids, preventing their reabsorption back into the bloodstream and their subsequent conversion into cholesterol in the liver (bile acids are a precursor of cholesterol in the liver). All-in-all, daily flaxseed supplementation factors into a heart-healthy lifestyle program.

Flaxseed and Bowel Function

Flaxseed also contains insoluble dietary fiber, which acts as a bulking agent, or roughage, in the promotion of more regular bowel movements. Studies indicate that flaxseed supplementation provides a natural and gentle laxative effect, associated with relieving constipation, and promoting the health of the large bowel. Most people ingest less than half of the recommended amount of dietary fiber per day. By providing soluble and insoluble dietary fiber, flaxseed is one of the few natural nutrition products that can help to keep cholesterol levels in check and maintain more optimal bowel function at the same time. Note that beans and peas, as well as psyllium husk fiber, also contain appreciable amounts of both soluble and insoluble fiber.

Flaxseed and Liver/Gallbladder Support

The daily ingestion of ground flaxseed has been shown to improve the flow of bile from the liver to the gallbladder, and ultimately into the intestinal tract. This effect helps to reduce the chances of gallstone formation and related gallbladder disease. Essentially, flaxseed supplementation induces a type of liver-flushing, preventing the stagnation of bile (which can harden into stones if not

eliminated in a timely fashion). Flaxseed supplementation also helps to prevent the conversion of bile into cholesterol, further facilitating a cholesterol-lowering effect by this action in the liver.

Flaxseed and Skin Texture

Although the mechanism of action remains a mystery, virtually everyone who begins using flaxseed daily comments on the improved texture and smoothness of their skin, usually noticed within the first month. For those of us who use it, this is a wonderful additional benefit to its other premiere health-enhancing attributes. Flaxseed oil, rich in alpha-linolenic acid, (ALA - an omega-3 fat) is also known to produce this effect, likely due to its influence on prostaglandin formation within epidermal cells.

Don't Confuse Flaxseed Powder with Flaxseed Oil

Practitioners and patients are often confused about the difference between flaxseed powder and flaxseed oil. Flaxseed powder (ground flaxseed) is a rich source of phytoestrogens, soluble fiber and insoluble fiber, and thus has important applications in female and male reproductive health; the lowering of cholesterol; improved liver and gallbladder function; and improved function and laxation of the large bowel. Flaxseed oil, on the other hand, is a rich source of ALA, which can be converted into prostaglandin series-3 eicosanoids. These eicosanoids help to reduce inflammation; produce vasodilation of arteries, improving blood flow; reduce platelet stickiness; and improve the texture and smoothness of the skin. Omega-3 fats (including ALA) have also been shown to favorably affect the growth and differentiation of breast cells, and are related to a reduced risk of breast cancer in a number of studies examining the fatty acid profile of adipocytes in the breast tissue of breast cancer patients compared to non-breast-cancer controls. Taken together, the evidence suggests that the concurrent use of powder and oil provides synergistic and important anti-aging and disease-prevention properties. Flaxseed oil is not a rich source of phytoestrogens, soluble or insoluble fiber, and flaxseed powder is not a rich source of ALA (although it contains some). I personally ingest two heaping tablespoons of flaxseed powder each day and take 2,000 mg of flaxseed oil (capsules).

How to Use Flaxseeds

You can purchase ground flaxseeds (often marketed as flaxseed powder) or you can grind whole flaxseeds in a coffee grinder daily to maximize freshness. Make sure your flaxseeds or powder are organic, as this form is easily obtainable.

Studies reveal that ingesting 40-50 grams of ground flaxseed per day provides the health benefits reviewed in this article. This is the equivalent of two heaping tablespoons of ground flaxseed. It can be mixed into a protein shake or fruit juice, and many people sprinkle it onto their cereal or mix it into a bowl of low-fat yogurt. It can also be baked into low-fat muffins or flax bread. The important thing is that you consume at least 25 grams per day, but more ideally, 40-50 grams through whatever delivery system works for you. The best news is that it has a nutty, flavorful taste that is very palatable and enjoyable.

Flaxseed is truly one of nature's gifts you should incorporate into a proactive, anti-aging, disease-prevention lifestyle. I advise you to use it on a daily basis and strongly recommend it to patients.

References

1. Nesbitt PD, et al. Human metabolism of mammalian lignan precursors in raw and processed flaxseed. *Am J Clin Nutr* 1995;69(3):549-555.
2. Hutchins AM, et al. Flaxseed influences urinary lignan excretion in a dose-dependent manner

- in postmenopausal women. *Cancer Epidemiol Biomarkers Prev* 2000;9(10):1113-1118.
3. Tham DM, et al. Clinical review 97: Potential health benefits of dietary phytoestrogens: a review of the clinical, epidemiological, and mechanistic evidence. *J Clin Endocrinol Metab* 1998;83(7):2223-2235.
 4. Zeigler J. Just the Flax, Ma'am: Researchers Testing Linseed. *J Natl Cancer Inst* 1994;86(23):1746-1748.
 5. Cunnane SC, et al. Nutritional attributes of traditional flaxseed in healthy young adults. *Am J Clin Nutr* 1995;61(1):62-68.
 6. Prasad K, et al. Reduction in hypercholesterolemia atherosclerosis by CDC-flaxseed with very low alpha-linolenic acid. *Atherosclerosis* 1998;136(2):367-375.
 7. Kitts DD, et al. Antioxidant activity of the flaxseed lignan secoisolariciresinol diglycoside and its mammalian lignan metabolites enterodiol and enterolactone. *Mol Cell Biochem* 1999;202(1-2):91-100.
 8. Kurzer MS, et al. Dietary phytoestrogens. *Annu Rev Nutr* 1997;17:353-381.
 9. Richard SE, et al. Plasma insulin-like growth factor-1 levels in rats are reduced by dietary supplementation of flaxseed or lignan secoisolariciresinol diglycoside. *Cancer Lett (Ireland)* 2000;161(1):47-55.
 10. Li D, et al. Dietary supplementation with secolariciresinol diglycoside (SDG) reduces experimental metastasis of melanoma cells in mice. *Cancer Lett* 1999;142(1):91-96.
 11. Brzezinski A, Debi A. Phytoestrogens: the natural selective estrogen receptor modulators? *Eur J Obstet Gynecol Reprod Biol* 1999;85(1):47-51.
 12. Tou JC, Thompson LU. Exposure to flaxseed as its lignan component during different developmental stages influences rat mammary gland structures. *Carcinogenesis* 1999;20(9):1831-1835.
 13. Haggans CJ, et al. Effect of flaxseed consumption on urinary estrogen metabolites in postmenopausal women. *Nutr Cancer* 1999;33(2):188-195.
 14. Haggans CJ, et al. The effect of flaxseed and wheat bran consumption on urinary estrogen metabolites in premenopausal women. *Cancer Epidemiol Biomarkers Prev* 2000;9(7):719-725.
 15. Thompson LU, et al. Anti-tumorigenic effect of mammalian lignan precursor from flaxseed. *Nutr Cancer* 1996;26:159-165.
 16. Gross PE, et al. Effect of dietary flaxseed in women with cyclical mastalgia. Program and abstract of the 23rd Annual San Antonio Breast Cancer Symposium. Dec 6-9, 2000; San Antonio, Texas. Abstract 153. *Breast Cancer Res Treat* 2000;64:49.
 17. Arjmandi BH, et al. Whole flaxseed consumption lowers serum LDL-cholesterol and lipoprotein (a) concentrations in postmenopausal women. *Nutr Res* 1998;18:1203-1214.
 18. Jenkins DJP, et al. Health aspects of partially defatted flaxseed, including effects on serum lipids, oxidative measures, and *ex-vivo* androgen and progestin activity: a controlled crossover trial. *Am J Clin Nutr* 1999;69(3):395-402.
 19. Flaxseed lowers cholesterol. *Nutr. Science News* 1998;3(11):575.
 20. Velasquez M, et al. Dietary phytoestrogens: a possible role in renal disease protection. *Am J Kidney Dis* 2001;37(5):1056-1068.
 21. Clark WF, et al. A novel treatment for lupus nephritis: lignan precursor derived from flaxseed. *Lupus* 2000;9(6):429-436.
 22. Denis L, et al. Diet and its preventive role in prostate disease. *Eur Urol* 1999;35(5-6):377-387
 23. Chen WJL, et al. Hypocholesterolemic effects of soluble fibers. In Kritchevsky D, Yahouny, GD, eds. *Dietary Fiber: Basic and Clinical Aspects*. New York. Plenum Press 1986:275-289.
 24. Sanghui A, et al. Inhibition of rat liver cholesterol 7-alpha hydroxylase and acyl C-A: cholesterol acyl transferase activities by enterodiol and enterolactone. In Kritchovsky D, ed. *Proceedings of the Symposium on Drugs Affecting Lipid Metabolism*. New York. Plenum Press, 1984:311-322.

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