Lignans Linked to Healthier, Thinner Women

Women with increased intake of lignans, and subsequently levels of metabolites in the blood, tend to have lower BMIs and total body fat mass, says a new study from Canada.

A study of 115 post-menopausal women showed that those with the highest blood levels of enterolactone, a lignan metabolite, had a BMI 4 kg/m2 less than women with the lowest average blood levels, according to results published online ahead of print in the *British Journal of Nutrition*.

Moreover, the highest blood levels of enterolactone were also associated with 8.5 kg less body fat, compared to women with the lowest levels, report researchers from Laval University in Quebec.

While the study does not show establish a causal link between lignans and the women's metabolic profile, the research does add to the list of potential health benefits of the plant compounds.

About lignans

Plant lignans, from sources such as flax seed, whole grain cereals, berries, vegetables and fruits, are metabolised in the colon by microflora into enterodiol and enterolactone. (*Editor's note: Each serving of NanOmega-3 has 50 mg of lignans from flaxseed*.)Previous research has focused on plant lignans as reducing the risk of prostate cancer, and in improving menopause health.

The main lignan from flaxseed is secoisolariciresinol diglucoside (SDG), which is metabolised to give enterodiol and enterolactone. These two metabolites are then absorbed from the gut and transported to the liver where they undergo further reactions before entering circulation. SDG-containing products are well-represented on the market, including Frutarom's LinumLife.

Study details

The researchers, led by André Tchernof, evaluated the intake of lignans using a three-day dietary record. The 115 women (average age of 56.8) also had blood taken to evaluate blood levels of enterolactone.

High intake of lignans was associated with lower body fat mass and BMI, compared to women with the lowest average intakes. Moreover, women with the highest average blood levels of enterolactone had improved glucose disposal rates (8.3 versus 5.5) and significantly lower blood glucose levels, compared to women with the lowest average blood levels.

"In conclusion, women with the highest enterolactone concentrations had a better metabolic profile including higher insulin sensitivity and lower adiposity measures," wrote the researchers.

A number of studies have reported links between increased dietary lignan intake, and/or increased levels of enterolactone and/or enterodiol and protection/ reduced risk of a wide range of conditions, most notably breast cancer, prostate cancer, and reduced hair loss. Clearly, more research is needed to evaluate the potential role, and to determine causality, for the potential role of lignans and their metabolites for metabolic profiles.

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"Impact of a lignan-rich diet on adiposity and insulin sensitivity in post-menopausal women"
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