U.S. National Library of Medicine
National Center for Biotechnology Information

NLM Citation: Drugs and Lactation Database (LactMed) [Internet]. Bethesda (MD): National Library of Medicine (US); 2006-. Flaxseed. [Updated 2018 Dec 3].
Bookshelf URL: https://www.ncbi.nlm.nih.gov/books/

Flaxseed

Revised: December 3, 2018.

Drug Levels and Effects

Summary of Use during Lactation

Flax (Linum usitatissimum) seed provides a nonabsorbable fiber which has been used as a laxative and has also been used topically to treat various skin conditions. Flaxseed oil contains alpha-linolenic acid (ALA), which is partially converted into the omega-3-fatty acids, docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA) in the body. Flaxseed oil increases the ALA content of breastmilk, but does not increase the DHA content. Maternal intake of preformed DHA, primarily derived from seafood or other marine oils, is required to increase breastmilk DHA content.[1][2] Flaxseed is generally well tolerated in adults, with occasional allergic skin reactions occurring. Very limited data exist on the safety and efficacy of flaxseed oil in nursing mothers or infants. However, supplementation of infant formula with ALA appears to improve the infant's DHA status.[3] Flaxseed used by the nursing mother as a laxative or topical poultice are not expected to adversely affect the breastfed infant. Flaxseed oil can be used during lactation, but is not effective in counteracting a low maternal DHA intake, as in vegetarian or vegan diets.

Heating breastmilk to 63.5 degrees C reduces the concentration of linolenic acid by about 22%. Freezing milk at -20 degrees C and thawing more than once decreases linolenic acid concentration by an average of 63%.[4]

Dietary supplements do not require extensive pre-marketing approval from the U.S. Food and Drug Administration. Manufacturers are responsible to ensure the safety, but do not need to *prove* the safety and effectiveness of dietary supplements before they are marketed. Dietary supplements may contain multiple ingredients, and differences are often found between labeled and actual ingredients or their amounts. A manufacturer may contract with an independent organization to verify the quality of a product or its ingredients, but that does *not* certify the safety or effectiveness of a product. Because of the above issues, clinical testing results on one product may not be applicable to other products. More detailed information about dietary supplements is available elsewhere on the LactMed Web site.

Drug Levels

Maternal Levels. Seven nursing women who were 2 to 11 months postpartum were given 4 weeks of supplementation with 20 grams flaxseed oil (10.7 grams of alpha-linolenic acid) daily after a 2-week washout period. The flaxseed oil was given as 1 gram capsules (Spectrum Essentials Veg-Omega 3 Cold Pressed Organic Flax Oil; Spectrum Naturals Inc., Petaluma, CA) in 3 divided doses. Ten breastmilk samples were collected at

about the midpoint of nursing. Samples were collected at baseline, after the 2-week washout, weekly during supplementation, and for 4 weeks afterward. The ALA and docosapentaenoic acid (DPA) content of breastmilk increased markedly and EPA increased slightly during supplementation. The ALA content of milk reached a peak of 7.5% of fatty acids at the end of 4 weeks of supplementation and returned to near baseline of 1.9% after as little as one week after supplementation was discontinued. No increase in breastmilk DHA was seen during the study.[5]

Infant Levels. Relevant published information was not found as of the revision date.

Effects in Breastfed Infants

Relevant published information was not found as of the revision date.

Effects on Lactation and Breastmilk

Relevant published information was not found as of the revision date.

References

1. Bourre JM. Dietary omega-3 fatty acids for women. Biomed Pharmacother. 2007;61:105-12. PubMed PMID: 17254747.
2. Brenna JT, Salem N Jr, Sinclair AJ, Cunnane SC. Alpha-linolenic acid supplementation and conversion to n-3 long-chain polyunsaturated fatty acids in humans. Prostaglandins Leukot Essent Fatty Acids. 2009;80:85-91. PubMed PMID: 19269799.
3. Udell T, Gibson RA, Makrides M. The effect of alpha-linolenic acid and linoleic acid on the growth and development of formula-fed infants: a systematic review and meta-analysis of randomized controlled trials. Lipids. 2005;40:1-11. PubMed PMID: 15825825.
4. Wardell JM, Hill CM, D'Souza SW. Effect of pasteurization and of freezing and thawing human milk on its triglyceride content. Acta Paediatr Scand. 1981;70:467-71. PubMed PMID: 7315290.
5. Francois CA, Connor SL, Bolewicz LC, Connor WE. Supplementing lactating women with flaxseed oil does not increase docosahexaenoic acid in their milk. Am J Clin Nutr. 2003;77:226-33. PubMed PMID: 12499346.

Substance Identification

Substance Name

Flaxseed

Scientific Name

Linum usitatissimum

Drug Class

Breast Feeding

Lactation

Complementary Therapies

Food

Oils

Phytotherapy

Plants, Medicinal