

Human Milk Project – Fatty Acids of Human Milk

Why a Human Milk Project? Human milk fat has a unique fatty acid composition. It is approximately 45 to 50 percent saturated, about 35 percent monounsaturated and 15 to 20 percent polyunsaturated. Of the saturated fatty acids made in the mammary gland, up to 18 percent can be the antimicrobial fatty acids lauric acid and capric acid. These antimicrobial fatty acids give the infant protection against viruses such as [HIV](#) and [herpes](#), bacteria such as [chlamydia](#) and [heliocobater](#), and protozoa such a [giardia lamblia](#).

The levels of these antimicrobial fatty acids can be as low as 3 to 4 percent, but as noted below, when lactating mothers are fed coconut fat, which is readily available food products that contain [desiccated coconut](#), [coconut milk](#), etc., the levels of lauric acid and capric acid increase significantly in the milk (see below for quote from study published in 1998 in the American Journal of Clinical Nutrition). This gives an important added benefit; the milk supply has increased amounts of the protective antimicrobials lauric acid and capric acid, which will give even greater protection to the infant.

What is the mechanism(s) at work? The pregnant female stores fat to be used in lactation. Any lauric acid and capric acid in the diet becomes part of the adipose stores.

The lactating female uses the fatty acids from the adipose stores and from the current diet for building the milk fat. Without added lauric acid from the diet, the mother's milk has about 3 percent lauric acid and 1 percent capric acid because the mammary gland also manufactures lauric acid and capric acid to provide the infant with antimicrobial benefit. Some mothers manufacture more than others and thus have more protection to offer their infant.

When lauric acid is in the diet from foods such as the coconut fat in [desiccated coconut](#), the amount of lauric acid in the mother's milk increases substantially to levels *three times* the original level and nearly *double* the amount of capric acid.¹ This gives the infant even more protection against viruses, bacteria, and protozoa. In some countries where coconut is in the food supply, the levels of lauric acid and capric acid in the mother's milk can be as high as **21 percent** and **6 percent**, respectively.

1. Francois CA, Connor SL, Wander RC, Connor WE. Acute effects of dietary fatty acids on the fatty acids of human milk. American Journal of Clinical Nutrition 1998; 67: 301-308.