Myths and Facts of Milk

Myth: Raw milk is healthier than Pasteurized milk

Fact: Research has shown that the nutrient content of raw milk and pasteurized milk are not significantly different. While pasteurization may destroy some of the good bacteria in addition to harmful bacteria, the risks of foodborne illness from bacterial pathogens in raw milk outweigh the potential benefits of good bacteria that can be found in other dairy products, such as yogurt.

Myth: Pasteurization causes lactose intolerance.

Fact: Lactose intolerance is caused by a lack of enzyme in the GI tract making it hard for the body to break down lactose in the milk. As lactose is present it both raw and pasteurized milk, neither can cause or prevent lactose intolerance.

Myth: Pasteurization causes allergic reaction to milk.

Fact: Allergic reaction to any dairy product is cause by a immune response to the protein found in the milk. As pasteurization does not affect the nutrients and therefore cannot cause a milk allergy.

Myth: Raw milk has the ability to kill bacteria by itself.

Fact: The only way to adequately kill the harmful bacteria in milk is through a heat-treatment such as pasteurization.

Myth: Raw milk can help build my child's immune system.

Fact: Raw milk can be especially dangerous to young children as they are particularly vulnerable to foodborne illnesses that can be serious, chronic, or fatal.

Resources

Nonpasteurized Dairy Products, Disease Outbreaks, State Laws. *Emerging Infectious Diseases.* Volume 18, March 2012: http://wwwnc.cdc.gov/eid/article/18/3/11-1370_intro.htm.

FDA.gov: http://www.fda.gov/Food/ResourcesForYou/consumers/ucm079516.htm

CDC.gov: http://www.cdc.gov/foodsafety/rawmilk/raw-milk-index.html

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Raw Milk

April 2012

Raw Milk: What is it?

Raw milk is milk from cows, sheep or goats that has not been through the process of pasteurization or other heat treatment. Advocates of raw milk claim that it is healthier due to more complete macronutrients, more vitamins and minerals and preservation of good bacteria when it is not heated. While these good bacteria are preserved in raw milk, harmful bacteria will also be preserved in the raw milk and these may cause illness. Raw milk may contain any of the following bacterial pathogens:

- *Enterotoxigenic Staph aureus*
- *Campylobacter jejuni*
- *Salmonella and E.coli species (spread from fecal contamination)*
- *Listeria monocytogenes (especially harmful to pregnant women)*
- *Brucella species (passed between animals)*
- *Yersinia enterocolitica (spreads from water to animals)*

All of these pathogens can cause foodborne illness that can be especially harmful for infants, young children, elderly and immunocomprimised

What is Pasteurization?

This is the process of heating the milk to a specific temperature for a set period of time to kill harmful bacteria that may be found in the milk. However, pasteurization does not kill all of the other bacteria in milk, including spoilage bacteria, which is one of the reasons milk and other pasteurized dairy products still need to be refrigerated.

Two types of pasteurization are commonly used for milk products:

1. High-Temperature-Short-Time Treatment (HTST): Milk is heated to 161° F for 15 seconds and then rapidly cooled. This is the most commonly used technique.
2. Low-Temperature-Long-Time Treatment (LTLT): Milk is heated to 145° F for 30 minutes.

Historically, before pasteurization was developed in 1864, raw milk was the cause of many illnesses and deaths, especially in children due to foodborne illnesses such as bovine tuberculosis and brucelliosis. The pasteurization process has been researched and improved since it's development. In 1938, milk products were the source of 25% of food and waterborne illness, but now they account for less than 1%.

Does Pasteurization Affect Nutrient Content?

Heating milk can affect some nutrient in milk, such as thiamin and vitamin C. However, milk is not a significant source of these nutrients. Therefore the nutrient composition between raw and pasteurized milk is not significantly different.

Is Raw Milk Safe?

According to several associations, including the FDA, CDC, and American Academy of Pediatrics, raw milk is NOT safe for general consumption due to the dangerous pathogens it may contain. Some of these foodborne illnesses can even be fatal in more vulnerable populations and pregnant women. A recent CDC study showed that between 1993-2006, 4,413 were sickened by dairy-borne outbreaks, and 36% of these (1,571 cases) were related to raw milk consumption.

Some of the symptoms of foodborne Illnesses found in raw milk include:

- Vomiting
- Diarrhea
- Abdominal pain
- Fever
- Headache
- Body aches

If you or someone you know has become ill after drinking raw milk or consuming products made with raw milk, or are pregnant and may have consumed raw milk or raw milk product, contact your doctor or healthcare provider immediately.

Raw Milk and Pregnancy

Raw milk can contain *Listeria* which is a bacterial pathogen that can cross the placenta and cause miscarriage, fetal death, or illness in a newborn. Consumption of raw milk or raw milk products is strongly discouraged for pregnant women. They should avoid raw milk and any products made with unpasteurized milk such as yogurts, soft cheeses or cream. If a pregnant woman thinks she has consumed a raw milk product, it is very important that she contact her doctor immediately.

Raw Milk Availability

In the 1980's the FDA passed regulation prohibiting the interstate sale of raw milk, so it is not allowed to be sold across state borders. However, some states do allow sale of raw milk directly from farmers, including Massachusetts. It is still highly recommended by the FDA that raw milk be avoided to protect yourself and your family from harmful pathogens.