

Cow's Milk Found in 11% of Human Milk Bought Online

Janis C. Kelly | April 06, 2015

Eleven percent of breast milk samples purchased over the Internet were contaminated with cow's milk, according to a study published online April 6 in *Pediatrics*. Moreover, the concentration of cow's milk was high enough in nearly all of the contaminated samples to suggest intentional adulteration

"Cow's milk can be problematic for infants with allergy or intolerance," write Sarah A. Keim, PhD, assistant professor of pediatrics, Nationwide Children's Hospital, Columbus, Ohio, and colleagues. "Because buyers cannot verify the composition of milk they purchase, all should be aware that it might be adulterated with cow's milk. Pediatricians should be aware of the online market for human milk and the potential risks."

Dr Keim and colleagues [previously reported](#) that 74% of similar Internet milk samples tested were contaminated with pathogenic bacteria likely to pose a risk to preterm or medically compromised infants.

The growing Internet market for human milk is thought to reflect some parents' reluctance to feed formula and the difficult situation of women unable to produce enough milk for their infants. Nonprofit milk banks operate under Human Milk Banking Association of North American regulations and do not pay milk donors, but those milk banks are currently unable to meet the demand for human milk for preterm and/or very sick infants, and parents whose child is not hospitalized do not have access to milk from a bank.

Internet sales insert a profit motive into the milk transaction, and because the milk is sold by volume, there is also an incentive for unscrupulous sellers to inflate the volume with adulterants such as cow milk–based formula or liquid cow's milk.

That appears to be what happened in the samples tested by Dr Keim's research team. They used mitochondrial DNA testing to detect bovine and human DNA in 102 milk samples purchased on the Internet. They also used laboratory-created control mixtures to estimate the proportion of cow's milk in each sample.

The researchers found that 11 of 102 samples purchased on the Internet contained mixtures of human and cow DNA, and 10 of the 11 contaminated samples contained levels of bovine DNA that would have required the addition of at least 10% cow's milk to the human milk sample — too much to have resulted from minor contamination.

The authors conclude, "Our findings confirm the previously theoretical risk that human milk being sold via the Internet may not be 100% human milk. Because buyers have little means to verify the composition of the milk they receive, all should be aware of the possibility that it may be adulterated."

Dr Keim's group had [previously shown](#) that 21% of those seeking human milk online planned to feed it to a child with a preexisting medical condition, 16% of whom were formula-intolerant.

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