

Breast milk protein safely reduces hospital infections in preemies

October 7 2016



Credit: University of Missouri-Columbia

Responding to a call from the American Academy of Pediatrics to reduce hospital-acquired infections in neonatal intensive care units across the country, researchers from the University of Missouri School of Medicine and Sinclair School of Nursing have found a protein in



breast milk to be a safe and efficient solution.

"The majority of diseases affecting newborn preemies are hospitalacquired infections such as meningitis, pneumonia and <u>urinary tract</u> <u>infections</u>," said Michael Sherman, M.D., professor emeritus in the Department of Child Health at the MU School of Medicine and lead author of the study. "Not only did we find that lactoferrin, a protein found in <u>breast milk</u>, could reduce <u>hospital infections</u> among preemies, but we also measured the safety of feeding the protein to newborns."

Sherman and his colleagues conducted a randomized control trial with <u>premature infants</u> weighing between 1 pound, 10 ounces, and 3 pounds, 4 ounces, at birth. Sixty of the infants were fed lactoferrin through a feeding tube twice a day for 28 days, while 60 additional infants were given a placebo. Researchers found the rate of hospital-acquired infections was 50 percent lower among the infants fed lactoferrin.

In addition, the researchers used MedDRA, a system that reports safety outcomes to the U.S. Food and Drug Administration, to evaluate the safety of lactoferrin during and after the infants received the protein. Infants were examined for adverse effects from the protein six and 12 months after the trial ended. Sherman said that all <u>adverse effects</u> identified were associated with complications from preterm birth and not lactoferrin.

"While a large-scale clinical trial is needed before lactoferrin becomes a standard treatment protocol in NICUs, our results show the safety of lactoferrin and provide an initial report of efficiency related to reducing hospital-acquired infections," Sherman said.

According to Sherman, lactoferrin can cost an estimated \$25 to \$500 per dose; a study published in the *Journal of the American Medical Association* found that hospital-acquired infections costs \$9.8 billion to



treat each year.

The study, "Randomized Control Trial of Talactoferrin Oral Solution in Preterm Infants," recently was published by *The Journal of Pediatrics*. Research reported in this publication was supported by the National Institutes of Health (HD05774).

In <u>previous research</u>, Sherman and his colleagues found that lactoferrin helped protect premature infants from a type of staph infection known as staphylococcus epidermidis.

Provided by University of Missouri-Columbia

Citation: Breast milk protein safely reduces hospital infections in preemies (2016, October 7) retrieved 11 May 2024 from <u>https://medicalxpress.com/news/2016-10-breast-protein-safely-hospital-infections.html</u>

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