

# Anoint Them with Oil

## Cheap-and-easy treatment cuts infection rates in premature infants

In developing countries, babies that arrive prematurely with low birthweights have mortality rates that exceed 50 percent. Infections are to blame for many of these deaths. A new study suggests that one way to curb infections and save babies' lives is as close as the grocery store.

Unlike full-term babies, premature infants have skin that isn't fully developed. It also lacks vernix, a creamy, white film with a variety of protective properties, including antibacterial activity. "We thought [their skin] may not function well to guard against pathogens entering the body," says Gary Darmstadt of Johns Hopkins University in Baltimore.

Seeking a barrier against infection as preemies' skin matures, Darmstadt's team

worked with 497 low-birth-weight infants admitted to a hospital in Bangladesh. To enroll in the study, babies had to be born at less than 33 weeks' gestation and weigh less than 1,500 grams (about 3 pounds).

The infants were randomly divided into three groups. All received normal care, but two of the groups also received massages—one using sunflower-seed oil, the other, Aquaphor, a petroleum-based ointment.

Nurses applied the emollients everywhere except the babies' faces and scalps three times daily during the first 2 weeks of life, then twice a day until the babies were discharged from the hospital. Because the infants were admitted at different times after birth, some infants started treatment on their first

day of life and others started it later.

Between 1998 and 2003, Darmstadt and his colleagues tracked bloodborne infection rates in all three groups. Overall, babies treated with sunflower-seed oil were 41 percent less likely to develop infections than were those who received conventional care. The percentage jumped to 56 percent when treatment started within a day of birth. Aquaphor's overall effectiveness was less clear, but when the treatment was started within 24 hours of birth, the infection rate dropped by 61 percent. The researchers report these results in an upcoming *Lancet*.

Darmstadt notes that massaging babies with oil is a common practice in many cultures. Throughout south Asia, for

example, mustard-seed oil is the emollient most commonly used on infants. However, an earlier study in mice suggested that this oil might have toxic effects. Sunflower-seed oil appears to be a culturally acceptable alternative for mothers and nurses in Bangladesh, Darmstadt says.

Massaging preterm infants with sunflower-seed oil "is something that just about anybody can do, and, for a whole course of treatment, it costs about 20 cents," Darmstadt says.

Alfred Lane, a dermatologist at Stanford University calls the study's results "really excellent." The challenge, he says, is to get the sunflower-seed oil into the hands of mothers who might otherwise opt to buy cheaper emollients that may not cut infection rates. —C. BROWNLEE