Insecticide-treated bed nets reduce infant deaths in Democratic Republic of Congo

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Giving insecticide-treated bed nets to nearly 18,000 mothers at prenatal clinics in the Democratic Republic of Congo prevented an estimated 414 infant deaths from malaria, a study by University of North Carolina at Chapel Hill researchers concludes.

The bed nets cost about $6 each. When costs for transporting and distributing the nets and educating people how to use them are factored in, it cost just over $411 per infant death prevented. In addition, the intervention prevented an estimated 587 low birth weight deliveries, which in turn reduced long-term disability.

"This is an extremely cost-effective intervention," said Sylvia Becker-Dreps, M.D., M.P.H., assistant professor of family medicine in the UNC School of Medicine and lead author of the study, which is published in the September 2009 issue of the *American Journal of Tropical Medicine and Hygiene*.

"In fact, it approaches the cost effectiveness of measles vaccination and is far more cost effective than prevention measures that are routine in the U.S."

The study stems from a project Becker-Dreps worked on while pursuing her Master of Public Health degree in the UNC Gillings School of Global Public Health. Andrea K. Biddle, M.P.H., Ph.D., an associate professor in the Gillings School, was one of her mentors on the project and is one of the study's co-authors, along with three other Gillings

School faculty.

In the project, study co-author Frieda Behets, Ph.D., associate professor of epidemiology at the Gillings School, helped 28 clinics in Kinshasa, the capital and largest city in the Democratic Republic of Congo, implement a program to prevent mother-to-child transmission of HIV. As part of that program, 17,893 pregnant women were given long-lasting, insecticide-treated bed nets for free.

Malaria, which is transmitted to humans by mosquitoes, is common among pregnant women in sub-Saharan Africa and is a major contributing factor to low birth weights and infant deaths in that region. "The goal of this study," Becker-Dreps said, "was to find out the costs and impact of giving bed nets to pregnant women in prenatal clinics, before their babies were born. The pregnant women could then use the bed nets during their pregnancies to reduce preterm deliveries and then use it to protect their young infants after birth."

Questionnaires administered to the mothers found that 84 percent reported sleeping under the bed net every day or almost every day, six months after delivery. Interviewers who visited a sample of the mothers reported that 70 percent had their bed nets hanging in the correct position in their homes.

Becker-Dreps and colleagues combined this data with actual infant mortality and low birth weight data from clinics in the region and then performed statistical analyses that enabled them to produce their estimates. They concluded that bed net distribution is a cost-effective addition to prenatal services in the region.

Source: University of North Carolina School of Medicine (news : web)