IOM Calls for More Research on Preterm Births

The IOM report, which was cosponsored by the March of Dimes and is a realistic assessment of prematurity, ‘elevates the seriousness of the problem.’

BY MARY ELLEN SCHNEIDER
Senior Writer

More than 500,000 infants or about 11% of infants born in 2004 in the United States were preterm and the rate of preterm births has risen by about 30% since 1981, according to a new report from the National Academy of Sciences’ Institute of Medicine.

Preterm birth, defined as any birth that occurs at less than 37 completed weeks of gestation, disproportionately affects women in certain racial, ethnic, and socioeconomic groups. For example, in 2003, nearly 18% of African American women had preterm births, compared with 11.9% of Hispanic women and 11.5% of non-Hispanic white women, the Institute of Medicine (IOM) report said.

“This is a growing problem that can result in significant consequences for families and for society as a whole,” Dr. Richard E. Behrman, chair of the IOM committee that produced the report, said during a press conference. “Yet preterm birth is not receiving the attention and funding necessary to fully understand the causes and consequences and to identify ways to reduce the number of preterm deliveries.”

Infants delivered preterm are at greater risk for a variety of health and developmental problems than full-term infants but there are also significant economic costs associated with preterm birth. The cost of medical care in infancy, maternal care, early intervention services, special education, and lost productivity from preterm birth added up to more than $26 billion in 2005, according to the IOM report.

This seeming contradiction can be explained, Dr. Callaghan said. “Among all infants who died, 65% were born preterm. However, just because the association exists does not mean that being preterm was necessarily the cause of death.”

The report calls on the federal government and private institutions to do a better job on collecting preterm birth data and to increase research that will lead to better identification of women at risk for preterm labor.

Although there have been significant improvements in treating preterm infants, there has been comparatively little success in understanding and preventing preterm birth, Dr. Behrman said. In effort to address some of those gaps, the IOM committee made a series of recommendations for public and private researchers. Some of the recommendations include:

- Multiple gestations. The National Institutes of Health and private foundations should establish integrated multidisciplinary research centers to focus on better understanding the causes of preterm birth and health outcomes for women and infants, the IOM committee recommended.

- Ultrasound use. Professional societies should encourage the use of ultrasound before 20 weeks’ gestation and establish standards of practice for training personnel to improve the reliability of ultrasound data, the IOM committee recommended. These efforts are important to gain accurate measures of gestational age, which is critical in the report.

- Infertility treatments. NIH, CDC, and other agencies should support research into how fertility treatments can increase the risk for preterm birth. The report also calls on professional societies to establish guidelines aimed at reducing the number of multiple gestations, such as single embryo transfer and restricted use of suprovulation drugs. The Society for Assisted Reproductive Technology and the American Society for Reproductive Medicine, which have already issued guidelines on the number of embryos that should be transferred per cycle, announced that upcoming revisions to their guidelines should help to further reduce the incidence of multiples and preterm births associated with assisted reproductive technology.

- Identification and treatment. Researchers should focus on ways to identify and treat women who have an increased risk of preterm labor, such as studying the number of multiples and potential new genetic markers that could lead to the creation of an “individualized composite assessment of risk.” Better methods are needed to diagnose preterm labor, assess fetal health, and arrest labor, the report said.

- Perinatal data. National Center for Health Statistics, part of the Centers for Disease Control and Prevention, should collect and report national perinatal data, the IOM committee recommended.

As of yet we do not have good predictors and prevention for preterm birth,” Dr. William Callaghan said in an interview. “We decided to reassert the contribution of preterm birth to infant mortality, in light of the strong connection between prematurity and infant death and the rising rates of preterm birth,” explained Dr. Callaghan, a senior scientist at Maternal and Infant Health Branch, Division of Reproductive Health, at the CDC.

Infants born at less than 32 weeks’ gestation and who weighed less than 1,500 g accounted for 88% of 9,596 deaths attributed to preterm birth. Among all infants who died, 65% were born preterm. However, just because the association exists does not mean that being preterm was necessarily the cause of death.

As an example, if a preterm infant with a lethal congenital anomaly dies, one cannot say with any certainty that the death was caused by preterm birth or by the congenital anomaly.

Dr. Callaghan explained that he and his coauthors took a very conservative strategy and looked only at the 20 leading causes of infant death. Of the 123 possible records in the linked birth/infant death file for 2002, the 20 leading causes accounted for 22,273 or 80% of all infant deaths. Within this group, they assessed the contribution of preterm birth for each of the causes of death that are embedded in the standard categories.

The methodology was broken down into three basic steps to determine whether the cause of death was actually related to prematurity. First, the cause of death had to be statistically associated with preterm birth. If preterm infants contributed to at least 73% of the mortality due to a specific cause, the death was considered as potentially due to preterm birth.

Second, information about the cause had to be sufficient in order to determine if preterm birth actually led to that condition, or if the condition was designated as the cause of death led to preterm birth.

Finally, it had to be determined whether the infant who died from the proposed cause was actually preterm.

Not surprisingly, the earliest infants had the highest rate of mortality, said Dr. Callaghan. Infants born at less than 32 weeks’ gestation and who weighed less than 1,500 g accounted for 88% of the total 4,958 deaths attributed to preterm birth.

“If you look at all infant deaths in total, preterm births account for 34% of them,” Dr. Callaghan said. “But if you look at infant deaths confined to the 20 leading causes, then that rate is 43%.”

The majority of the infants die within the first 24 hours after birth. “Prevention of preterm birth and early infant deaths is crucial if we are going to further reduce the infant mortality rate,” he said.