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The State of the Science: Focus on Maternal–Child Health Research

Reports on papers presented at the National Congress on the State of the Science in Nursing Research, October 7 to 9, 2004, Washington, DC, sponsored by the Council for the Advancement of Nursing Science and the National Institute of Nursing Research. This is the first in a series on research reports that we will be highlighting.

Revisiting Labor and Delivery Practice

Pushing versus waiting in second-stage labor.

Kathleen Rice Simpson, PhD, RN, FAAN, and Dotti C. James, PhD, RN, conducted a study on nursing practice during labor and birth that is very important for several reasons: it was a randomized clinical trial examining nursing interventions, it had appropriate power to answer the question (sufficient sample size for detecting true, rather than chance, differences between the control and experimental groups), and its primary investigator was a clinical nurse specialist with a PhD. Simpson and James wanted to know if nursing interventions carried out during labor have an effect on fetuses.

The literature tells us that the second stage of labor is physiologically stressful for the fetus. Today a large majority of women receive oxytocin (Pitocin and others) sometime during labor (either for induction or augmentation), along with epidural analgesia. This fundamentally changes labor. In normal labor without oxytocin, contractions tend to spread out during the second stage of labor when the woman pushes. This gives the fetus time to recover from the stress of the mother's pushing. Now, however, with oxytocin, contractions are artificially maintained at close intervals, even during pushing. What does this do to the baby?

Nurses help women push in two different ways: they either ask the woman to begin closed-glottis pushing at 10 cm dilation (telling the woman to hold her breath and push, whether or not she feels the urge to push—a very common intervention) or, less commonly, they do nothing until the woman feels the urge to push, and then they simply assist her to push when she wants to. Is one of these interventions any better than the other regarding fetal well-being?

Simpson and James measured fetal oxygen saturation to find out. The two groups (pushing immediately at 10 cm dilation versus delaying pushing until urge; N = 45) were randomized. Simpson found a significant difference in how much fetal oxygen saturation decreased during the second stage between the two groups. There was also a significant difference in the number of periods lasting longer than 2 minutes during which fetal oxygen saturation was abnormal. Furthermore, there were also fewer variable decelerations of the fetal heart rate and fewer perineal lacerations in the delayed pushing group. Simpson and James concluded that delayed pushing is more favorable for physiologic fetal well-being during second-stage labor, and that it does not increase the risk of operative births (forceps or vacuum) or cesarean births. This study by Simpson and James highlights the importance of continued research into the effectiveness of

widely used nursing interventions.—written by *Margaret Comerford Freda, EdD, RN, FAAN*

Fatigue and Depression After Birth

New marker for detecting depression.

Researchers Elizabeth Corwin, PhD, CRNP, RN, and Karen Morin, DSN, RN, from Pennsylvania State University did this study to find out if postpartum fatigue had an effect on the development of postpartum depression in healthy women. They recruited 42 women at the 36th week of pregnancy and then studied them on postpartum days 7, 14, and 28, measuring postpartum fatigue, perceived stress, and depressive symptoms. Corwin and Morin found that women who reported severe fatigue two weeks postpartum were more likely to have postpartum depression. As other researchers have found, most of the postpartum women were fatigued, but this lessened consistently during the first month after the baby was born. Of the women Corwin and Morin studied, 11 women ultimately developed postpartum depression; they could predict depression in 10 of the 11 women by their day 14 postpartum fatigue scores. This finding is important for nurses because it provides an additional marker by which nurses might be able to detect postpartum depression at earlier stages.— written by *Margaret Comerford Freda, EdD, RN, FAAN*