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Exercising While Pregnant Gives Newborns a Real Head Start

November 16, 2013

Many doctors suggest that women take it easy during their pregnancies. However, being active might actually be the best thing for newborn noggins. New research shows that as little as 20 minutes of exercise, three times a week, is enough to give their babies a head start in brain development.

Scientists at the University of Montreal wondered if the benefits of exercise for cognition might transfer from mother to baby.



To study this, they asked a group of pregnant women to work out for a minimum of 20 minutes, three times per week, at a moderate intensity of 55 percent of their maximal aerobic capacity. The researchers met with the subjects monthly to ensure they adapted their intensity levels to their advancing pregnancy. The participants of a control group were asked not to exercise, and were excluded if they worked out more than the minimal amount performed by the exercise group. The control group was also monitored monthly.

Ten days after each infant was born, the child's brain activity was measured using electroencephalography (EEG). Each infant's auditory memory and ability to discriminate sounds was also measured by studying his or her brain's electrical activity in reaction to pitches while asleep in the mother's lap. Different brain reactions to new sounds confirmed a child's ability to discriminate among the sounds. "We then measured auditory memory by means of the brain's unconscious response to repeated and novel sounds," Élise Labonté-LeMoyne, an exercise science graduate student, said in a prepared statement.

The particular cognitive reaction to sound that the researchers measured is characteristic of early brain development, and slowly disappears as newborns age and become more efficient in treating information. Over the course of three years, Labonté-LeMoyne and her supervisor, neuroscientist Dave Ellefberg, found the infants of the mothers who had exercised while pregnant were twice as efficient learners than the children of the sedentary group. That said, all of the babies in the study were born healthy.

The scientists hope their finding, presented November 10 at the annual Society for Neuroscience meeting, will motivate pregnant women to exercise. "Pregnant women are not exercising for just themselves, but for their babies as well," Labonté-LeMoyne says. She also hopes other scientists will conduct a longer study in which the children will be followed as they grow older, adding that many other variables come into play after birth. The researchers are now evaluating the children's motor and language development as one year olds. It might still be a bit early for even the children of the active moms, however, to start singing arias.

- Julianne Chiaet