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2001 Program
Investigator Initiated (2-year project)

Project Title: Smoking and developmental disabilities

Project Summary: Maternal smoking during pregnancy has been shown to have a negative impact on various aspects of infant and child development. The links between maternal smoking, low birth weight and infant mortality are well established. However, evidence regarding the effect of maternal smoking during the prenatal period on intellectual development has been inconsistent. These conflicting results may be a result of small sample size or a failure to control for birth weight in analyses. The focus of this research was to better understand:

1. To what extent does maternal smoking during pregnancy increase the risk of a child developing a childhood disability?
2. To what extent does maternal smoking during pregnancy increase the risk of a child developing a childhood disability?

Project Successes: Using a large, population-based sample, the research team examined the individual- and population-level risks of prenatal exposure to tobacco and low birth weight on the development of childhood disabilities.

Results indicated that prenatal exposure to tobacco has adverse effects on the development of childhood disabilities by itself and in combination with low birth weight. Low birth weight children who were born to mothers who reported smoking during pregnancy were at the highest levels of risk for a developmental disability, compared to normal birth weight children born to mothers who did not smoke. However, prenatal exposure to tobacco alone also resulted in significant increases in risk for four specified disabilities and the combination of disability categories. Prenatal exposure to tobacco had the strongest association with development of behavior problems. Children whose mothers smoked during pregnancy were more than twice as likely as to be classified as Severely Emotionally Disturbed or Emotionally Handicapped compared to mothers who did not smoke, irrespective of birth weight.

These findings are that prenatal exposure to tobacco places children at significant risk for developmental disabilities, over and above those that are mediated by an increase in low birth weight. The important health and educational implications of these data are that prenatal smoking is much more serious than had been supposed. The previous estimates have been based almost entirely on the consequences mediated by increases in the rate of low weight births.

Presentations from BRP funded research:

Yale ME, **Scott KG**, Lazarus C, Mason C, Gonzales A. () The effects of prenatal exposure to tobacco and low birth weight on the development of childhood disabilities. Philadelphia, PA: APHA Conference; 2002.

New grants based in part on BRP-funded work:

CDC

Title: Surveillance of autism spectrum disorders in Miami-Dade County.

Project period: September 30, 2002-September 29, 2005

Award amount: \$664,535